

SAMSUNG

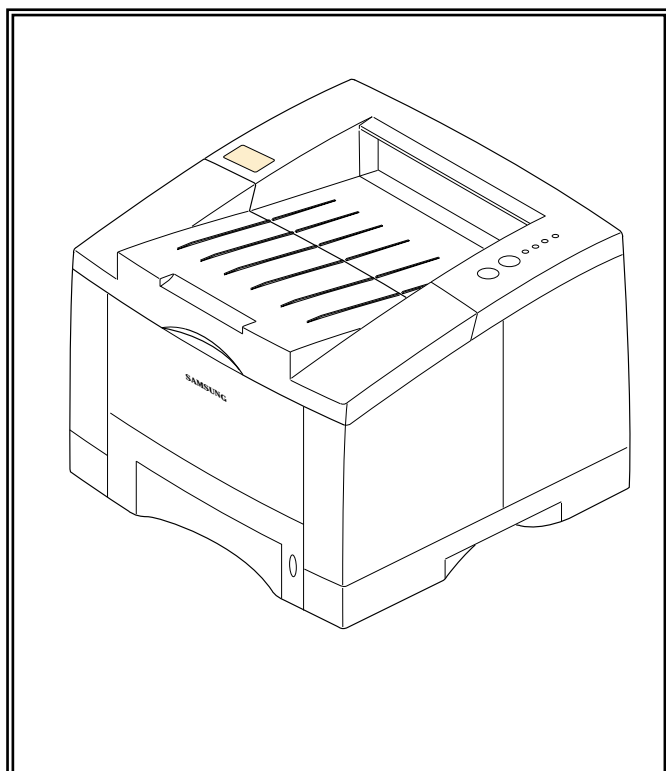
LASER PRINTER

ML-6060

ML-6060N

***SERVICE* Manual**

LASER PRINTER



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1. Precautions

1-1 Safety Precautions

Read each caution carefully:

1. Do not use this printer near water or when exposed to inclement weather.
2. Do not place this printer on an unstable cart, stand or table; the product may fall, causing serious damage to the product.
3. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation and to protect the printer from overheating, do not block or cover any of these openings. Do not place the printer in an enclosure unless the enclosure provides adequate ventilation.
4. Never push objects of any kind into the printer through the cabinet ventilation slots as they may touch dangerous high voltage points, create short circuits, cause a fire, or produce an electrical shock. Never spill liquid of any kind on the printer.
5. Do not place the printer in a location where someone may trip on the cords.
6. Select a work surface that is large enough to hold the printer.
7. Position the printer within six feet of the computer and within five feet of an electrical outlet.
8. Operate this printer using the power source (110V, 220V, etc) indicated on the marking label. If you are not sure of the type of power source available, consult your dealer or local power company.
9. If you need to use an extension power cord with this printer, make sure that it uses a three-wire grounded cord and that the total ampere ratings for all of the products using the extension do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
10. Do not allow anything to rest on the power cord or data communications cable.
11. Unplug this printer from the wall outlet before cleaning. Do not use liquid cleaners or aerosol sprays. Use a damp cloth for cleaning.
12. Do not touch the surface of the photo-sensitive drum as marks or scratches may impair print quality.
13. Do not expose the drum unit to direct light for prolonged periods.
14. Use only standard papers, OHP films, and approved envelopes. Feed OHP films through the manual feed slot only. See specifications for approved papers and envelopes.
15. Other than replacing consumables such as paper and toner, refer all questions to qualified service personnel.


LASER STATEMENT (LASERTURVALLISUUS)

WARNING : NEVER OPERATE AND SERVICE THE PRINTER WITH THE PROTECTIVE COVER REMOVED FROM LASER/SCANNER ASSEMBLY. THE REFLECTIVE BEAM, ALTHOUGH INVISIBLE, CAN DAMAGE YOUR EYES.

Class 1 laser product

Luokan 1 laserlaite
Klass 1 laser apparat

Allonpituus 770-795nm
Teho 0.29mW±0.02mW

	CAUTION	INVISIBLE LASER RADIATION WHEN THIS COVER OPEN. DO NOT OPEN THIS COVER.
	VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEOFFNET. NICHT DEM STRAHL AUSSETZEN.
	ATTENTION	REYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
	ATTENZIONE	RADIAZIONE LASER INVISIBLE IN CASO DI APERTURA. EVITARE L'ESPOSIZIONE LA FASCIO.
	PRECAUCION	REDIACION LASER INVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

CAUTION : Avoid exposure to invisible laser radiation when the development unit is not installed.

1-2 Servicing Precautions

Note : Requirements for AC power are described on the label affixed to the rear of the printer. Check the AC voltage rating requirement before use.

1. Before disassembly, pull the power plug from the AC power connector.
2. To avoid spilling toner inside the machine, do not turn the printer over or on its side before removing the developer cartridge.
3. Faulty installation of DRAMs may cause permanent damage to the Laser Printer.
4. Use only +5V power for video controller-related circuitry.
5. When replacing parts, use only the same type of part as the original. Replacing components with a second vendor's part may cause faulty operation.
6. Check the insulation between the blades of the AC plug and accessible conductive parts (examples : metal panels and input ports).
7. **Insulation Checking Procedure:**
Disconnect the power cord from the AC power source. Connect an insulation resistance meter (500V) to the blades of the AC plug.
The insulation resistance between each blade of the AC plug and accessible conductive parts (see left) should be greater than 1 megaohm.
8. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
9. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 ESD Precautions

Some semiconductor ("solid state") devices are easily damaged from static electricity. Such components commonly are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits (ICs), Large-Scale Integrated circuits (LSIs), some field-effect transistors, and semiconductor chip components. The following techniques will reduce the occurrence of component damage caused by static electricity:

CAUTION : Be sure the power is off to the chassis or circuit board, and observe all other safety precautions

charge to damage ESDs.

1. Immediately before handling any semiconductor components assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist strap device. (Be sure to remove the strap before applying power to the unit under test to avoid potential shock.)
2. After removing ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a ground-tip soldering iron when soldering or desoldering ESDs.
5. Use only anti-static solder removal device. Some solder removal devices are not rated as "anti-static;" these can accumulate sufficient electrical

2. Specifications

Note: It is subject to change without notice.

Item	Specification & Description										
Engine	ML-6060										
Print Speed	12PPM (A4 Size, 5% Character Pattern)										
Resolution	True 600 x 600 dpi, 1200 DPI class with SRT										
Source of Light	Laser Diode (LSU:Laser Scanner Unit) + Electrophotography										
Print Method	Non-impact Electrophotography										
Feed Method	Cassette & Manual, Option Feeder										
Paper Handling (input)	<p>*Size (1) Standard : A4, Letter, Legal, B5, Executive, Folio (2) Envelope : MP Tray only</p> <table border="1"> <thead> <tr> <th>Paper Type</th><th>Paper size(mm²)</th></tr> </thead> <tbody> <tr> <td>Monarch</td><td>98.5 x 190.5</td></tr> <tr> <td>Com-10</td><td>104.9 x 241.3</td></tr> <tr> <td>Intl-DL</td><td>110 x 220</td></tr> <tr> <td>Intl C5</td><td>162 x 229</td></tr> </tbody> </table> <p>(3) Universal type Length : 150 ~ 356 mm Width : 90 ~ 216 mm *Weigh : For Cassette, 60 ~ 90 g/m² For MPF, 60 ~ 143 g/m²</p>	Paper Type	Paper size(mm ²)	Monarch	98.5 x 190.5	Com-10	104.9 x 241.3	Intl-DL	110 x 220	Intl C5	162 x 229
Paper Type	Paper size(mm ²)										
Monarch	98.5 x 190.5										
Com-10	104.9 x 241.3										
Intl-DL	110 x 220										
Intl C5	162 x 229										
Paper Handling (output)	Face Down : 250 sheets, Face Up : 20 sheets										
Feed Capacity	Cassette : 550 sheets of paper (75g/m ²) MP Tray : 100 sheets of paper (75g/m ²) 30 sheets of transparencies 10 envelopes or card stocks 25 paper labels Option Cassette : 550 sheets of paper										
Warm-up time	30 seconds or less (23°C, 50%)										
First Print Time	Tray1 : 15seconds or less Tray2 : 17seconds or less										
Power Rating	AC100~120V/ 220~240V(±15%), 50/60Hz (±3%)										
Power Consumption	During Printing : 250WH (average)										
Power Saving	During Sleep : Less than 12W										
Consumption	Less than 50W during 1 hour when it turned on										
Certification & Compliance	110V : UL,CSA,CDRH,FDA 220V : GS,SEMKO,FIMKO,NEMKO,DEMKO										
Acoustic Noise	Stand by : Less than 35dB, Operating : Less than 48dB										
Toner Supply	Print Cartridge										

Specifications

Item	Specification & Description
Printing Area	No-print area : 3mm from edge(Top,Bottom,Left,Right) of listed core media
	No-print area : 3mm from edge(Top,Bottom,Left,Right) of envelope
Operating Environment	Temperature : 10~30°C, Humidity : 20~80%RH
Storage Environment	Temperature : 0~35°C, Humidity : 10~90%RH
Weigh	Net : Max 11Kg, Gross : 15.5Kg
External Dimension	409.1 (W) x 362 (D) x 298.5 (H)mm
Print Cartridge	Life Span : 6,000 pages, 5% Pattern Developing : Non-magnetic Contact Developing Charging : Conductive Roller Charging Density Adjustment : 3 step (Light, Medium, Dark) Toner Supply Method : Exchanging the Developer Toner Checking Sensor : None Transfer System : Conductive Roller Transfer Fusing System : Temperature & Pressure Ozone Emission : Less than 0.1 PPM
Emulation	PCL5e,PCL6, optional PostScript Level 3 Compatible
Font	1 bitmap 45 scalable (35 intelligent, 10 truetype)
CPU	ARM7 TDMI (clock speed 66MHz)
RAM Memory	Standard : ML-6060,ML-6040 - 4M byte ML-6060N -16M byte Option SIMM Module ; 4, 8, 16, 32,64M byte *Refer to Operator's Guide for instructions on SIMM installation.
ROM	2M byte (8M bit x 2 : Program) Flash Memory
EEPROM	512 bytes

Item	Specification & Description
Interface	<p>Bidirectional Parallel Standard</p> <ul style="list-style-type: none"> - IEEE 1284 COMPATIBLE MODE - IEEE 1284 NIBBLE MODE - IEEE 1284 BYTE MODE - IEEE 1284 ECP WITHOUT RLE - IEEE 1284 ECP WITH RLE <p>USB Interface Standard</p> <ul style="list-style-type: none"> - USB 1.0 compliant - 12Mbps 1 port <p>Network Interface</p> <p>100 Base T or 10 Base T (Autoselect)</p> <p>Ethernet</p>
Interface Switching	Automatic (Parallel, USB, Network)
Interface Time Out	5 min (max.)

Specifications

Item	Specification & Description
Network	
Network Operating Systems	Windows 95/98 and Windows NT (3.51, 4.x) Netware (3.x, 4.x), NDS and Bindery Mode /RPRINT, PSERVER Mode UNIX and Apple Talk
Network Protocols Supported	TCP/IP : Windows 95/98, Windows NT, UNIX IPX/SPX : Windows 95/98, Novell Netware DLC/LLC : Windows 95/98, Windows NT Ethertalk : Apple Talk SNMP : for Network Printer Administration
Network Card Interface Network Management S/W	Ethernet 10/100 BaseTX (Auto Negotiation) Samsung's Admin. Software Utility (SyncThru) SNMP and MIB-II Support, GUI based utility for Windows Systems and Test based utility for UNIX Systems HTTP server for web browser based network management (can manage NPC and printer options on Web Browser)

3. Disassembly and Reassembly

3-1 General Precautions on Disassembly

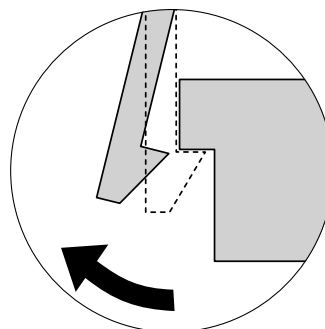
When you disassemble and reassemble components, you must use extreme caution. The close proximity of cables to moving parts makes proper routing a must. If components are removed, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing any component from the machine, note the cable routing that will be affected.

Whenever servicing the machine, you must perform as follows:

1. Remove the paper cassette(s), and the print cartridge. Do not expose the cartridge to direct room light or sun light, and be careful not to scratch the drum surface.
2. Turn the power switch off.
3. Unplug all the cables from the printer.
4. Replace with only an authorized component.
5. Do not force to open or fasten a plastic material component.
6. Be careful no obstacles are included when you reassemble components.
7. When you reassemble components, be careful small size components are located in place.
8. If you turn the machine over to replace some parts, toner or paper particles may contaminate the LSU window. Protect the LSU window with clean paper.

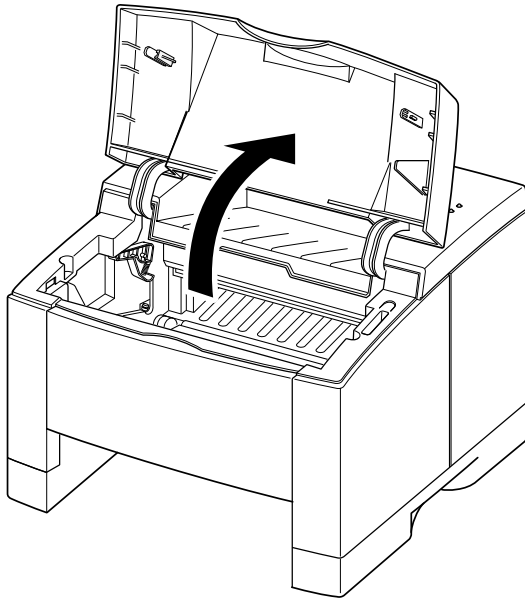
Releasing Plastic Latches

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully. To remove such parts, press the hook end of the latch away from the part to which it is latched.

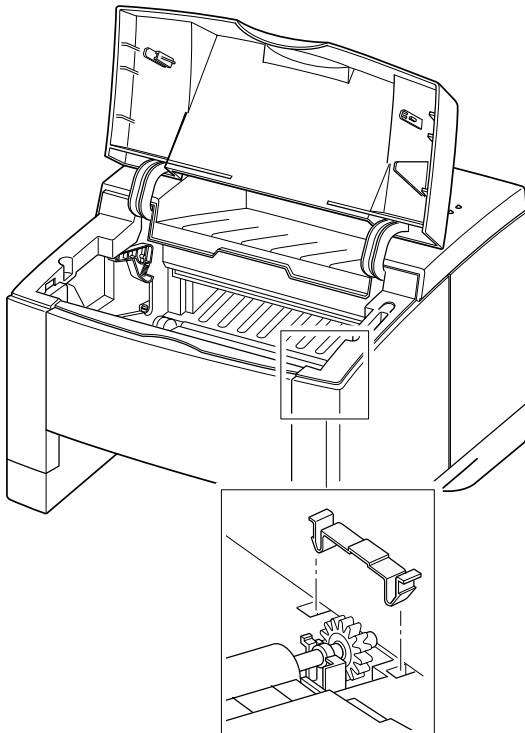


3-2 Transfer Roller

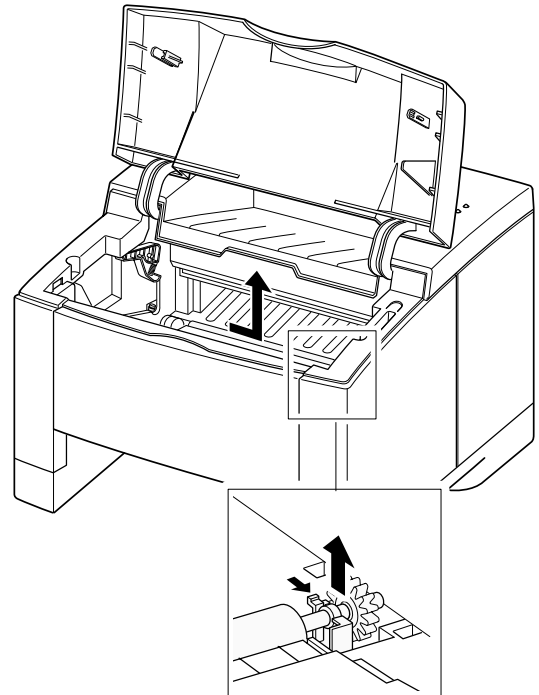
1. Open the printer cover.



2. Remove the cap.

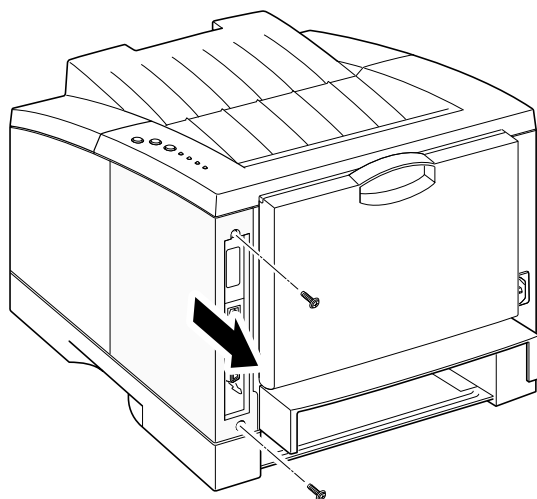


3. Hold the cap at the both end of the roller, then remove the roller.

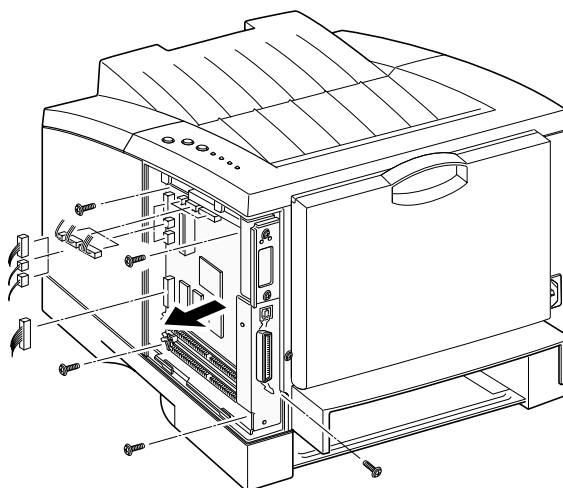


3-3 Controller Board

1. Remove two screws and remove the controller board.

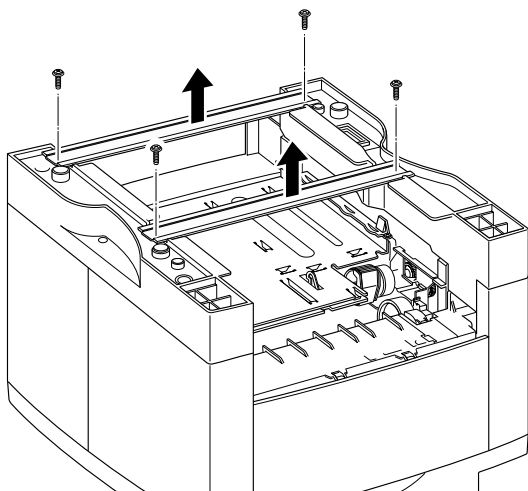


2. Remove five screws securing the board and unplug all connectors, and then take the controller board out of the printer.

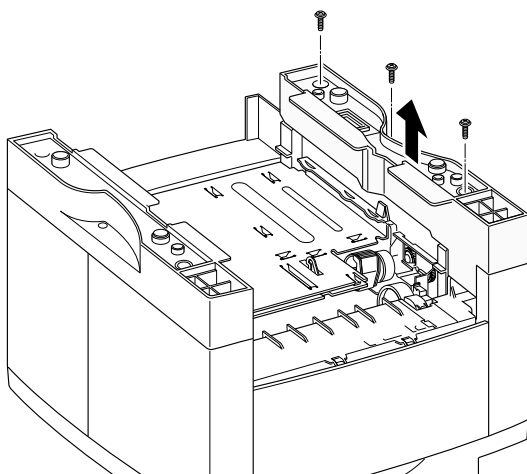


3-4 Pickup Assembly

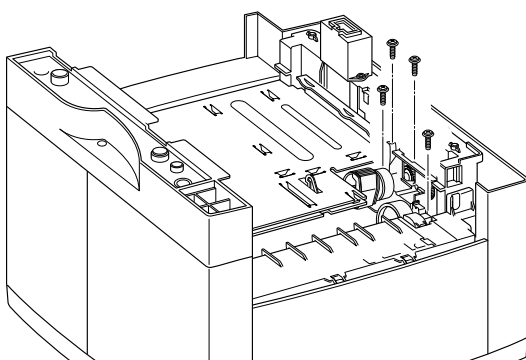
1. Turn the printer upside down. Remove four screws, then remove the bar cross bottom.



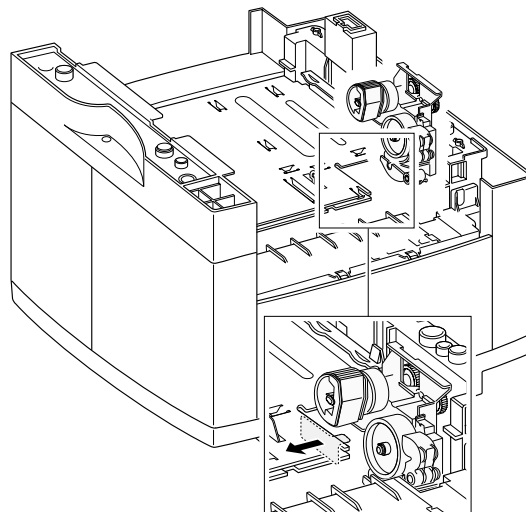
2. Remove three screws from the left base bracket, and take the bracket out.



3. Remove four screws securing the pickup assembly.

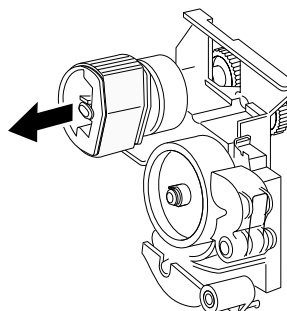


4. Take the assembly out.

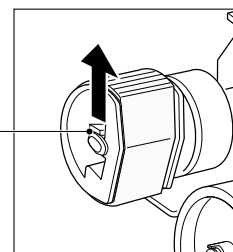


Push the solenoid if you have difficulty to remove the pickup assembly.

5. Check the pickup rubber wear. If the rubber is heavily worn, replace it with a new one.

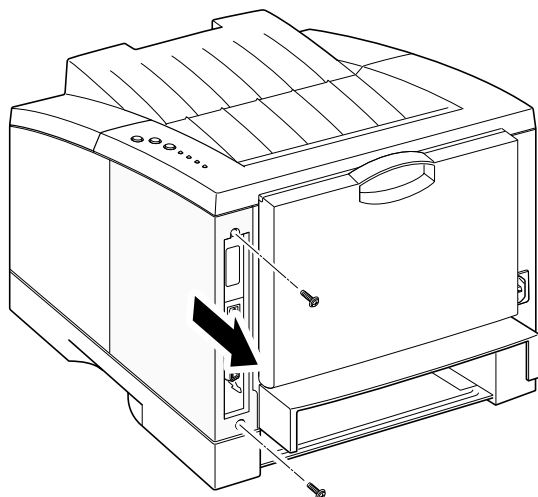


Squeeze this tab to remove the rubber.

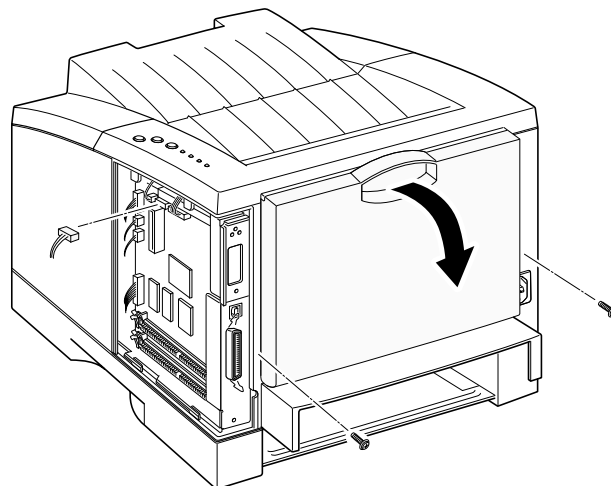


3-5 Main Cover

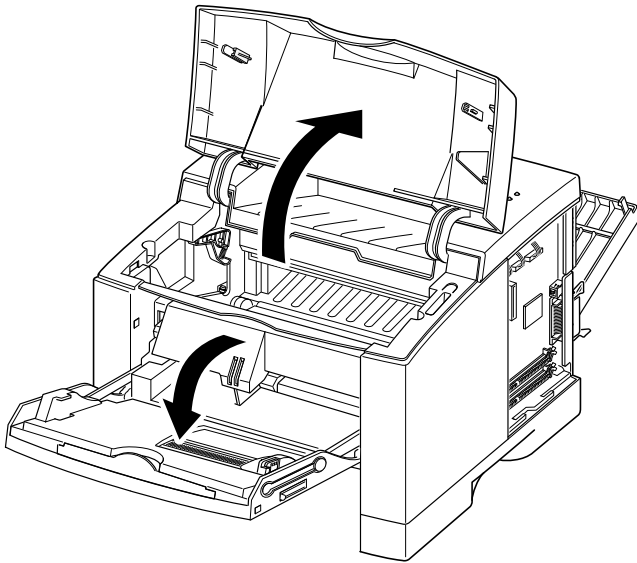
1. Remove two screws and remove the controller board.



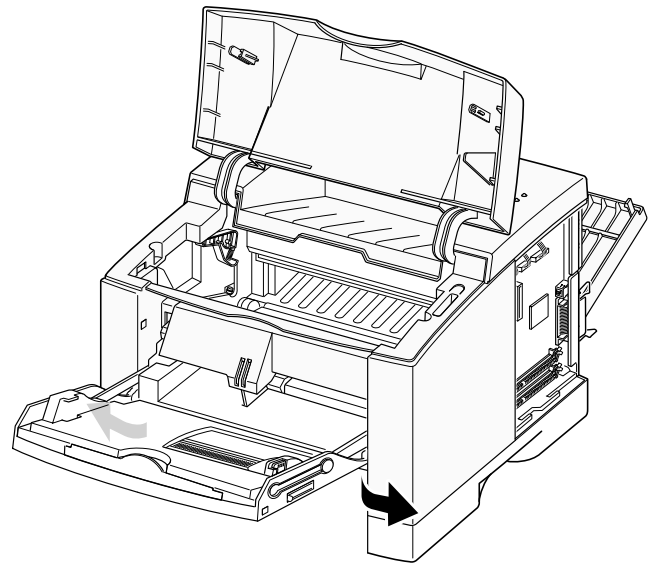
2. Remove two screws at the back of the printer and unplug one connector from the board, then open the rear cover.



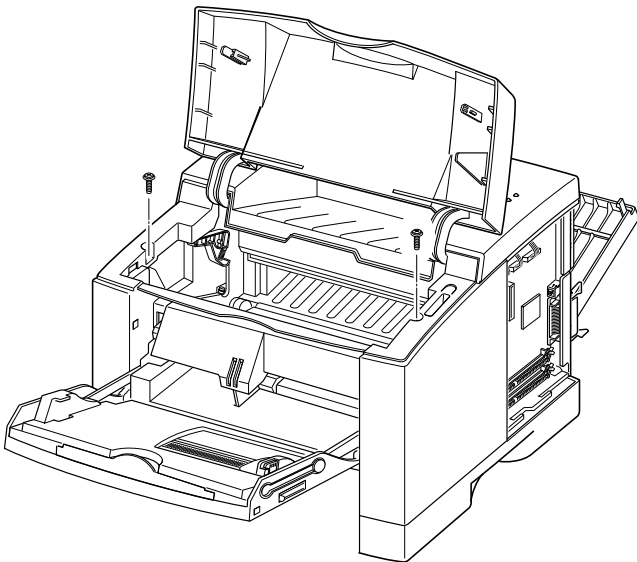
5. Open the printer cover, and open the MP tray.



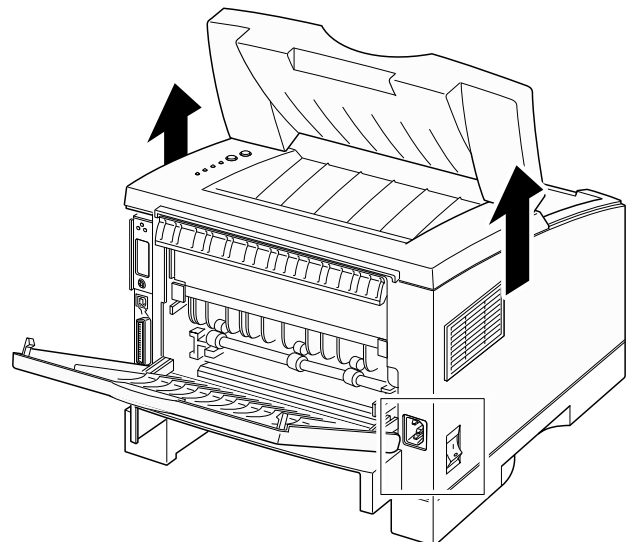
7. Unlatch the front ends of the cover.



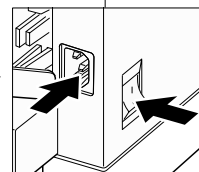
6. Remove two screws securing the main cover.



8. Slide the main cover upward, out of the printer.



Note that the power switch and the power connector are properly released when you remove the cover.

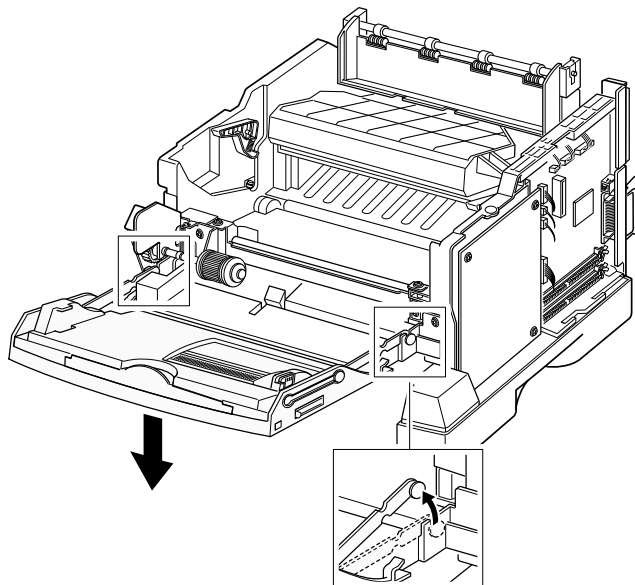


3-6 MP (Multi-Purpose) Tray

1. Before you remove the MP tray, you should remove:

-Main Cover (see page 3-5)

2. Remove the stoppers securing the MP tray.

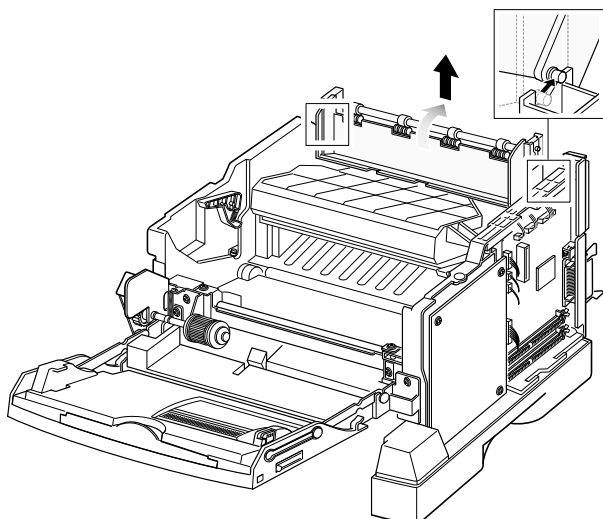


3-7 Exit Assembly

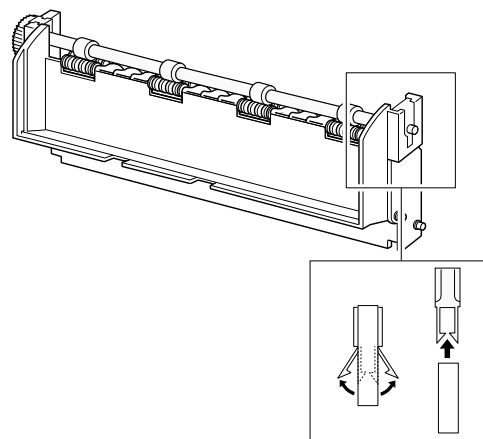
1. Before you remove the exit assembly, you should remove:

-Main Cover (see page 3-5)

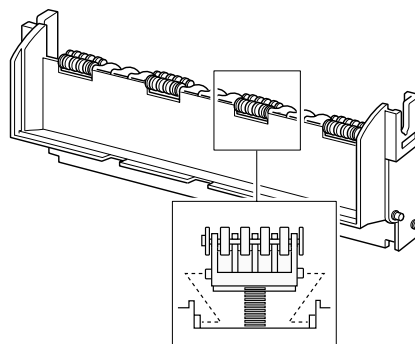
2. Remove the exit tray in the direction of arrow.



3. If you want to remove the roller shaft, unlatch both ends of the shaft and take it out.



4. If you want to remove the exit roller, squeeze the bottom of the roller and take it out.

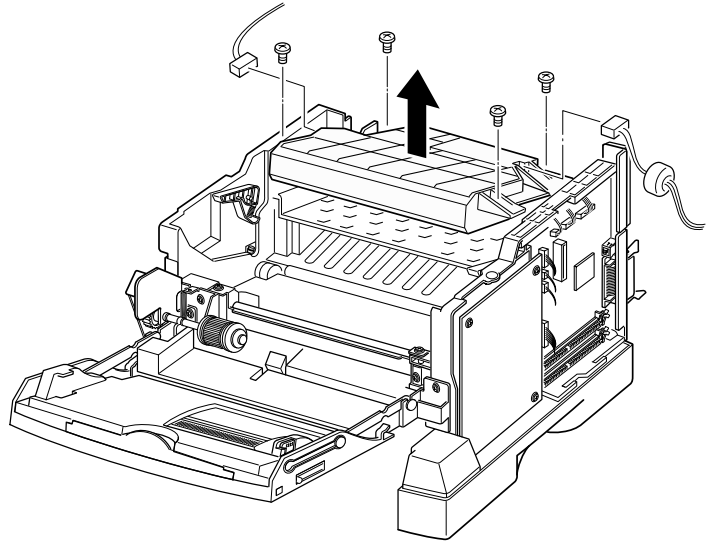


3-8 LSU

1. Before you remove the LSU, you should remove:

- Main Cover (see page 3-5)
- Exit assembly (see page above)

2. Remove four screws, and remove the LSU. Then unplug two connectors from the LSU.

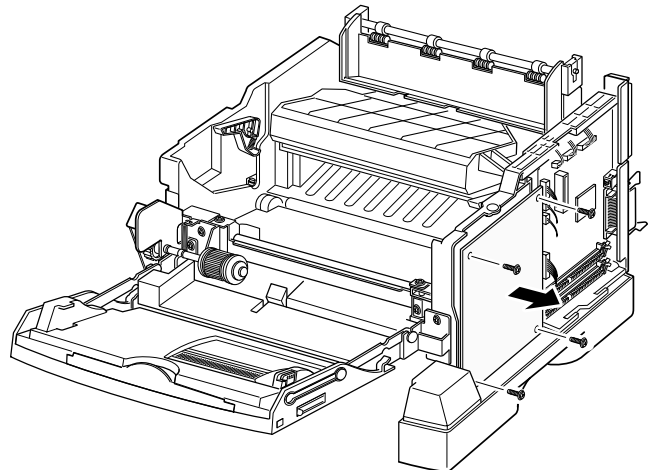


3-9 HVPS board

1. Before you remove the HVPS board, you should remove:

- Main Cover (see page 3-5)

2. Remove four screws and take the HVPS board out.

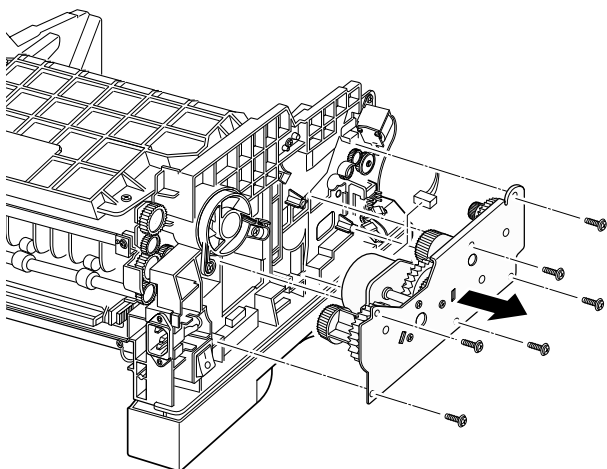


3-10 Drive Assembly

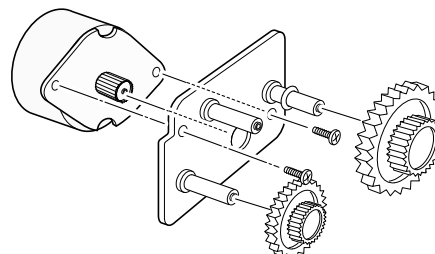
1. Before you remove the drive assembly, you should remove:

-Main Cover (see page 3-5)

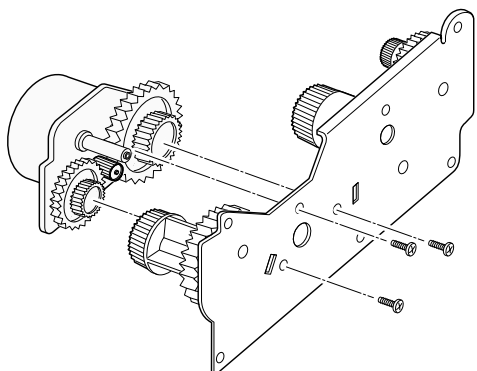
2. Remove six screws securing the drive assembly from the gear bracket and unplug one connector from the motor, and then take the drive assembly out.



4. Remove the motor assembly. Remove two screws securing the motor to the motor bracket, then take the motor out.



3. If you want to remove the motor from the drive assembly, remove three gold screws securing the motor assembly to the gear bracket.

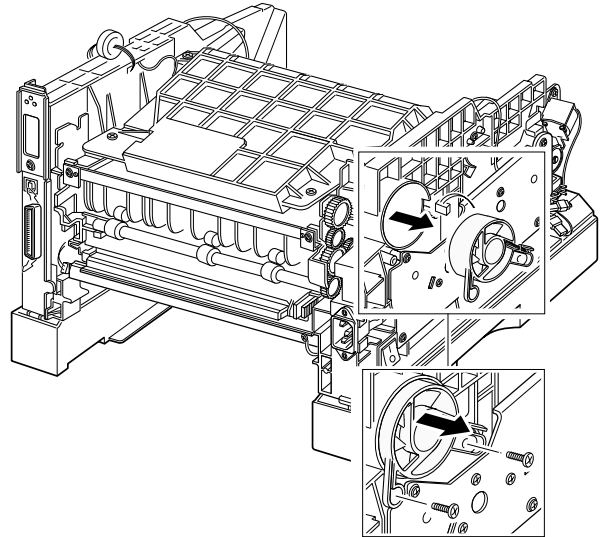


3-11 Fan

1. Before you remove the fan, you should remove:

-Main Cover (see page 3-5)

2. Remove two screws, and remove the fan. Then unplug one connector.

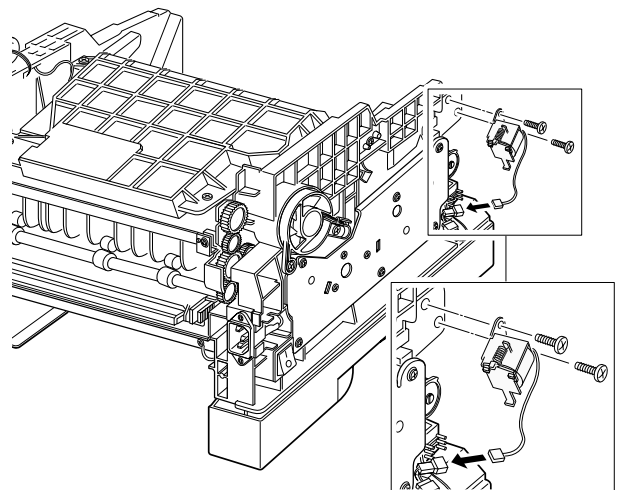


3-12 Solenoid

1. Before you remove the solenoid, you should remove:

-Main Cover (see page 3-5)

2. Remove two screws, and remove the solenoid. Then unplug one connector.

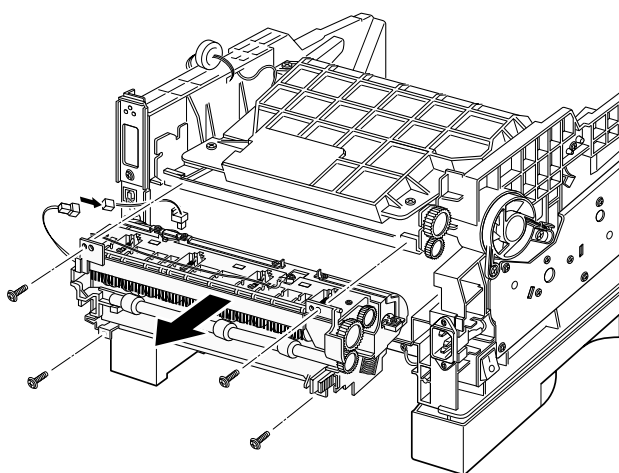


3-13 Fuser Assembly

1. Before you remove the fuser, you should remove:

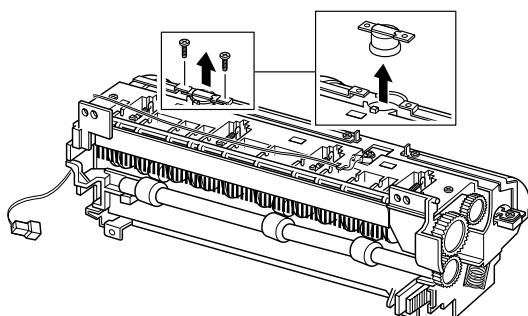
-Main Cover (see page 3-5)

2. Remove four screws and unplug one connector, and then remove the fuser assembly.



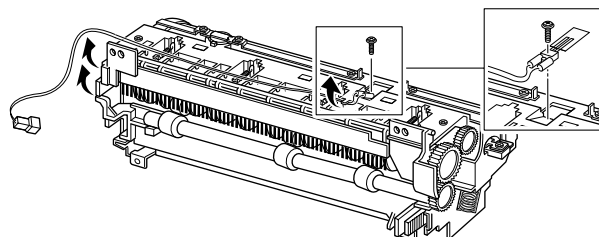
To remove the thermostat from the fuser assembly

Remove two screws and take the thermostat out.



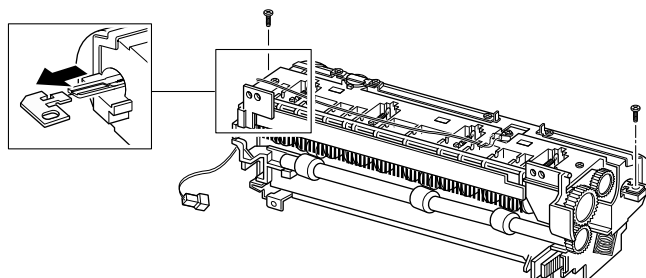
To remove the thermistor from the fuser assembly :

Remove one screw, and release the wire from the three holders, and then take the thermistor out.

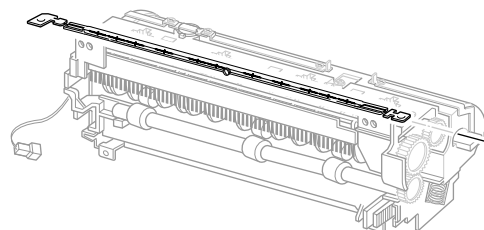


To remove the halogen lamp from the fuser assembly :

Remove two screws and take the halogen lamp out of the fuser assembly.

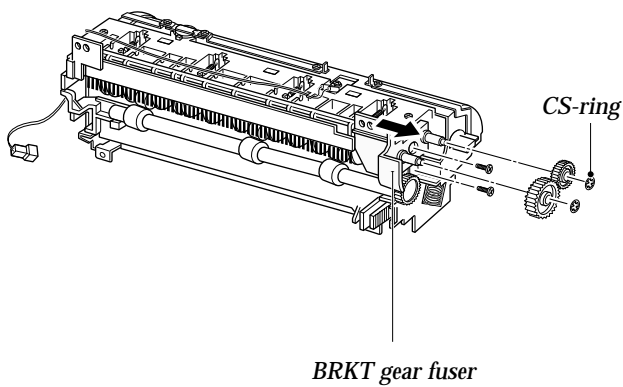


Note: When you reassemble the halogen lamp, make sure that it is inserted into the slot properly.

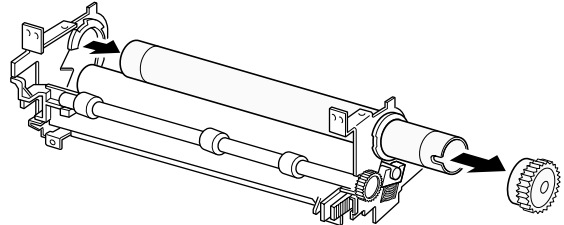


To remove the heat roller from the fuser assembly :

1. Remove the halogen lamp. (see page 3-11)
2. Remove two CS-rings and two gears. Then remove two screws securing the BRKT gear fuser and take the gear fuser out.

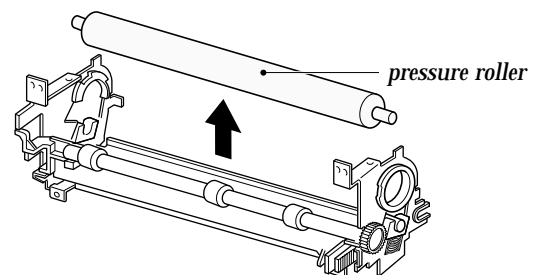


4. Remove the heat roller.

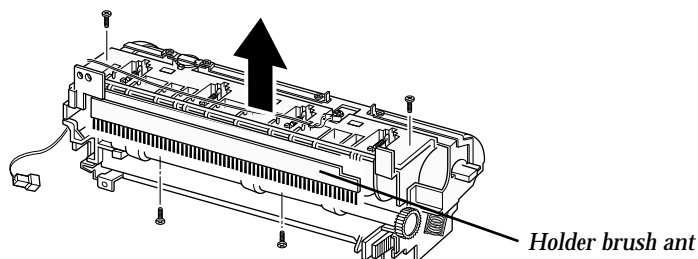


To remove the pressure roller from the fuser assembly :

Remove the roller.



3. Remove two screws and take the cover fuser out.
4. Remove two screws and take the holder brush ant out.

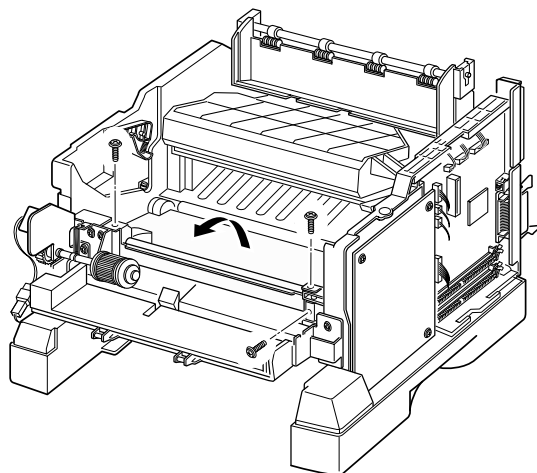


3-14 Guide Feed

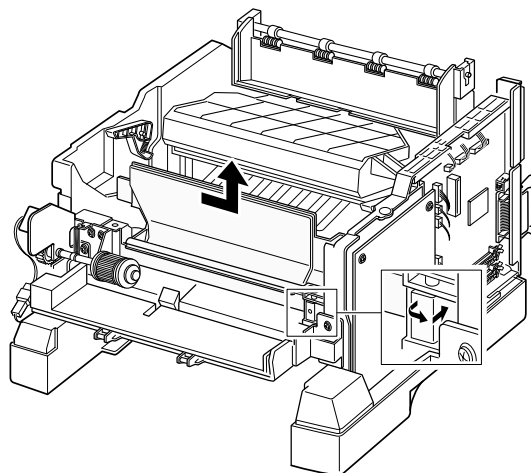
1. Before you remove the guide feed, you should remove:

-Main Cover (see page 3-5)

2. Remove two screws and raise the guide feed in the direction of arrow.



3. Remove the guide feed.

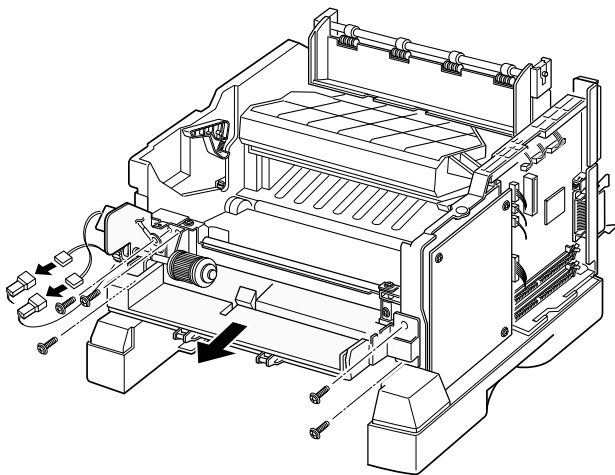


3-15 MPF Assembly and Miscellaneous on MPF Assembly

1. Before you remove the MPF assembly, you should remove:

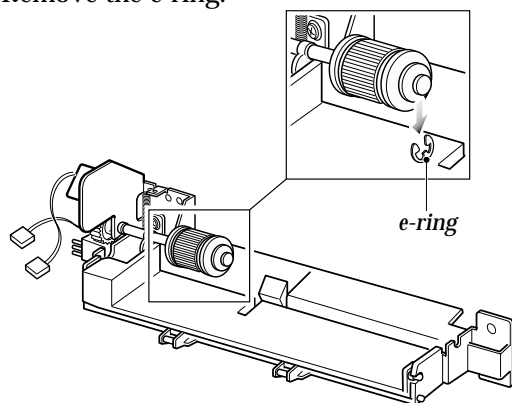
-Main Cover (see page 3-5)

2. Unplug two connectors and remove five screws, and then take the MPF assembly out.

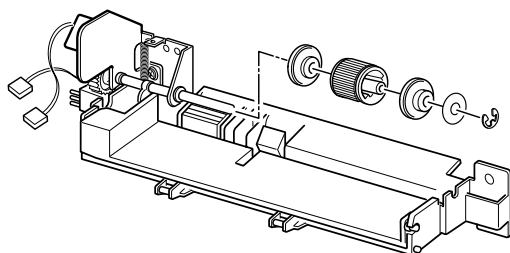


To replace the pickup roller :

1. Remove the e-ring.

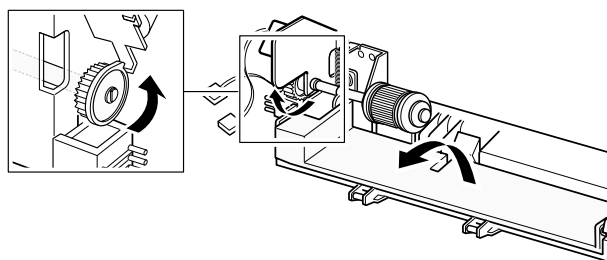


2. Remove the roller.

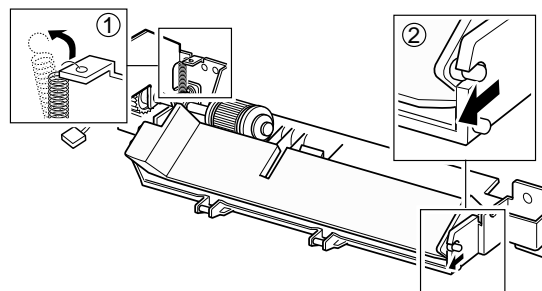


To replace the nockup plate :

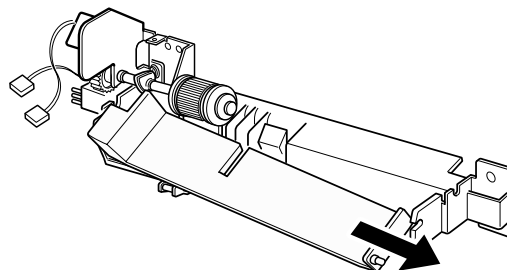
1. Turn the gear shown in the square in the direction of arrow to release the nockup plate.



2. Remove the spring , then release the right end of the plate .

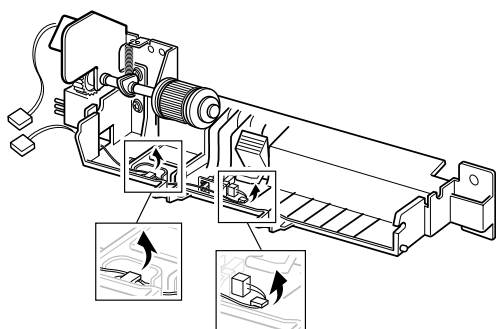


3. Remove the nockup plate.

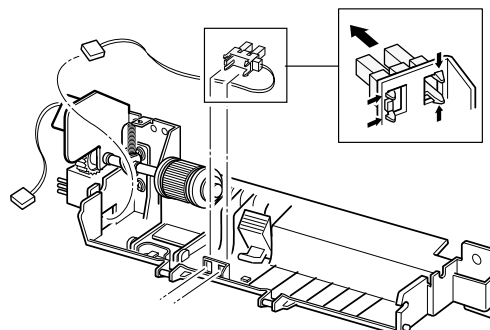


To replace the Paper Empty (PE) sensor :

1. Release the wire from the two holders.

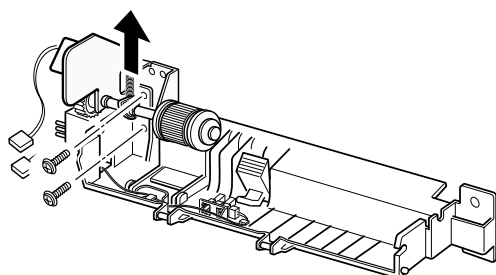


2. Unlatch the PE sensor, then take it out.

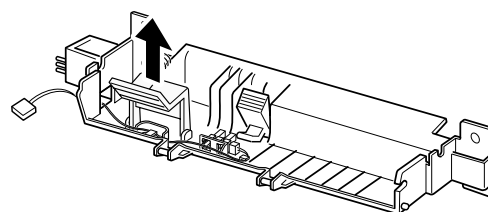


To replace the pickup holder and the Adjust End MP:

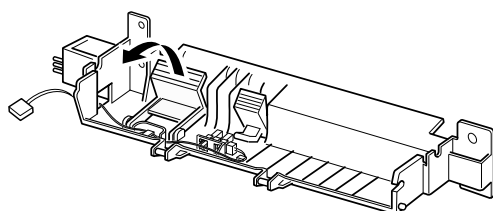
1. Remove two screws and remove the MPT bracket.



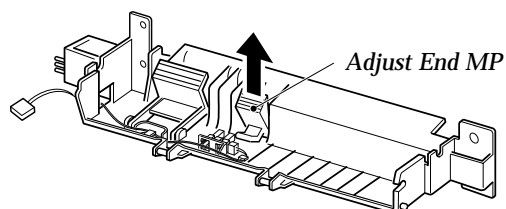
3. Remove the pickup holder.



2. Raise the pickup holder in the direction of arrow.



4. Remove the Adjust End MP

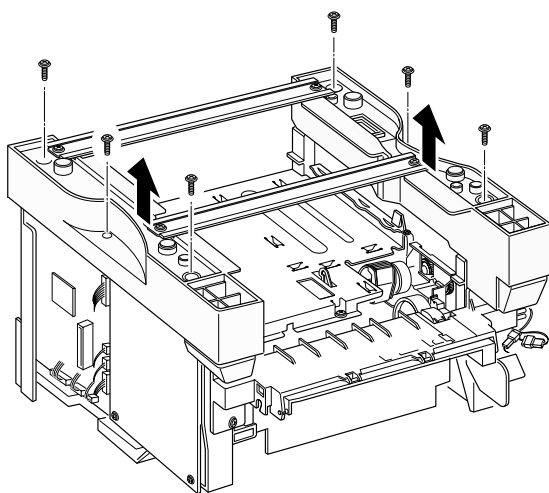


3-16 Engine Board and Miscellaneous

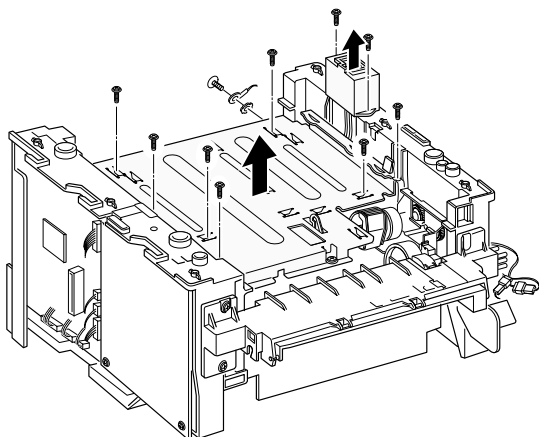
1. Before you remove the engine board, you should remove:

-Main Cover (see page 3-5)

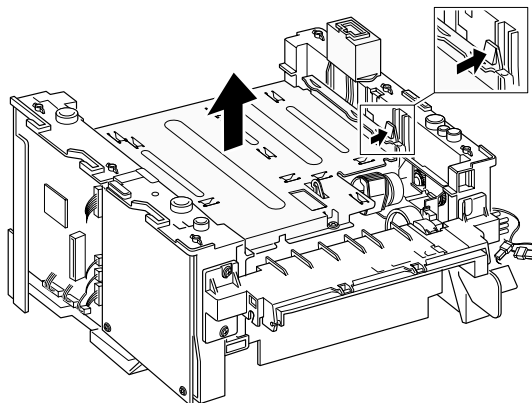
2. Remove six screws from the left and the right base brackets and take them out.



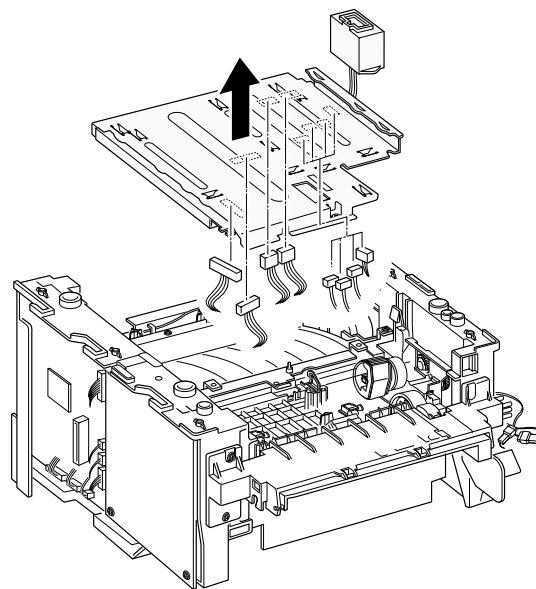
3. Remove eight screws securing the PCU shield and remove two screws securing the SCF connector, and then take the PCU shield out of the printer.



4. While you push the latch to release the PCU shield, take the PCU shield out of the printer.

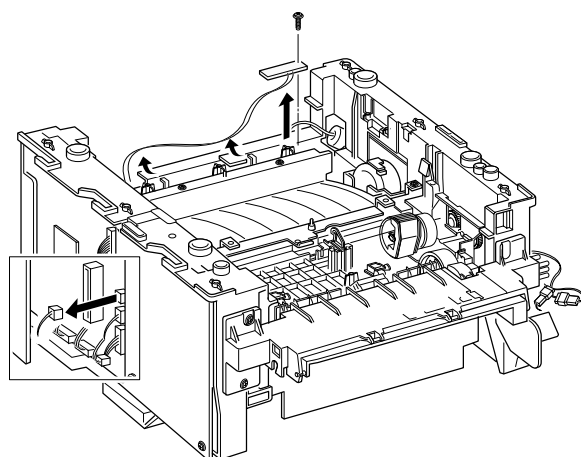


5. Unplug all connectors from the PCU shield, and remove the shield.

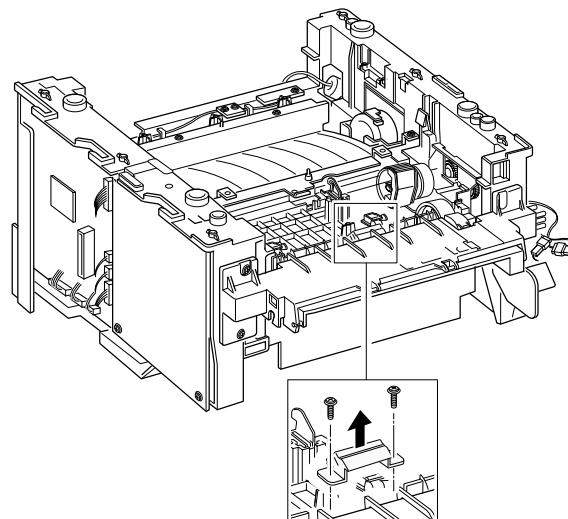


To replace the exit board :

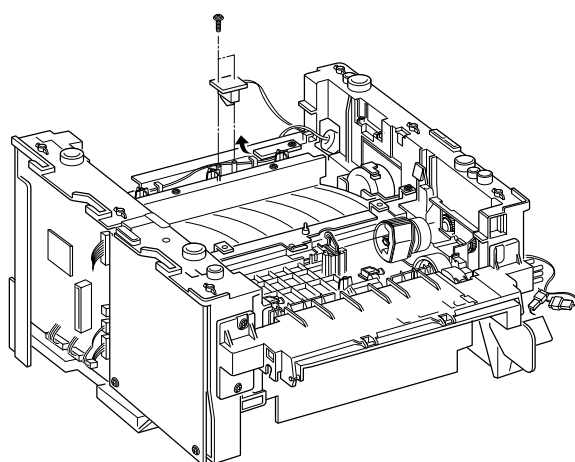
Unplug one connector from the controller board and remove one screw securing the board. Then release the wire from two holders and take the board out.

**To replace the Cap sensor :**

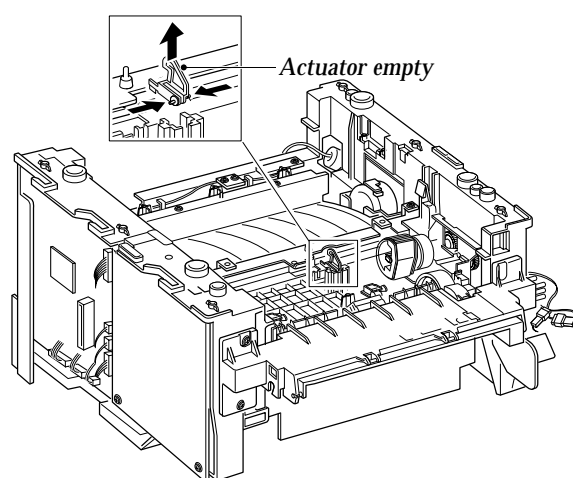
Remove two screws and take it out.

**To replace the fuser sensor :**

Remove two screws and take it out.

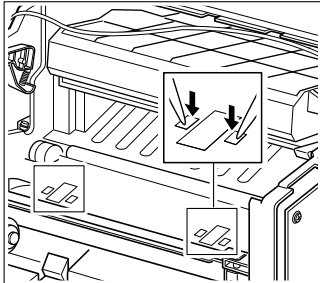
**To replace the actuator empty :**

Take the sensor out while you squeeze the both ends of the sensor.

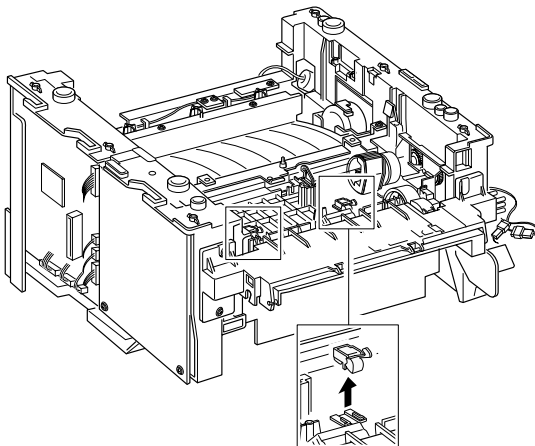


To replace the actuator feed

1. Turn the mechanism back and push down the points as shown to unlatch the actuator feed.

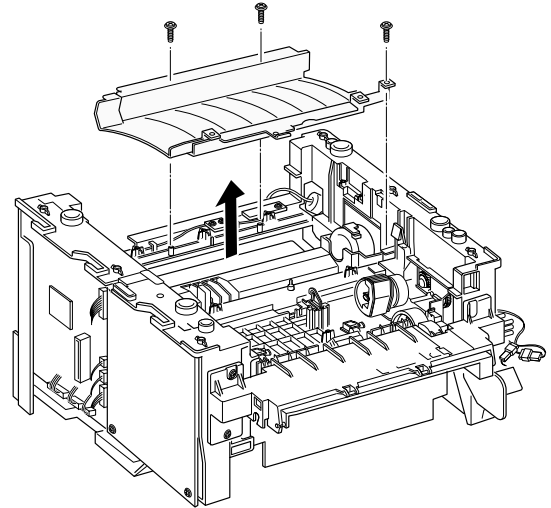


2. Turn the unit over again, and remove the actuator feed.



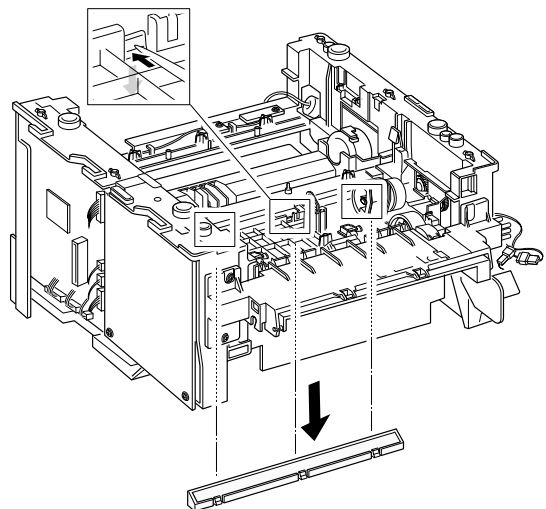
To remove the transfer guide :

Remove three screws and take the guide out.



To replace the PTL ass'y

Release the three tabs latching the sensor using a phillips screwdriver, then push the sensor down.



4. Troubleshooting

4-1 DCU Control

In case of ML-6060, you can not use the DCU under 'Diagnostic mode'
But, you can check set condition by status code

4-1-1 DCU Setup

1) Connect DCU to Controller Board Connector CN9 (4 pins)).

4-1-2 DCU Error Status Code

DCU error code will indicate malfunction area of the machine.

Display	Error status
60	OPEN FUSER ERROR
62	LOW HEAT ERROR
68	OVER HEAT ERROR
64	COVER OPEN ERROR
70	NO PAPER or NO CASSETTE
71	PAPER JAM 0
72	PAPER JAM 1
73	PAPER JAM 2
95	LSU NOT READY

4-1-3 Error Solution

Display	Solution
60, 62, 68	<ol style="list-style-type: none"> 1. Measure the resistance of the AC connector on the Fuser. Normal resistance is 2-4 ohms for 110V, 6-8 ohms for 220V. 2. Check if the fuser lamp works properly. 3. Measure the resistance at Q7 on the engine board. If abnormal, replace U503,CN502,
70	<ol style="list-style-type: none"> 1. Make sure that paper is loaded in the cassette. 2. Replace U555 sensor (photo interrupter). 3. Replace U7 on controller board.
71	<ol style="list-style-type: none"> 1. Make sure that paper is loaded in the cassette. 2. Check for pick-up unit. If it is heavily worn, replace it with new one. 3. Replace U554 sensor. 4. Check if the feed clutch works properly. 5. If abnormal, replace the feed clutch or Q3 on the Engine board .
72, 73	<ol style="list-style-type: none"> 1. Make sure that the paper being used meets the specification. 2. Check if there is a paper jam in the fuser. 3. Replace U554 on the engine board or exits ensor on the frame. 4. Check the fuser roller for any dirt. If dirty, clean the roller.
95	<ol style="list-style-type: none"> 1. Check for CN11,CN6 on the Controller board. 2. Replace U5,OSC1 on the Engine board. 3. Replace LSU.

4-2 Abnormal Image Printing and Defective Roller

If abnormal image prints periodically, check the parts shown below.

No	Roller	Abnormal image period	Kind of abnormal image
1	OPC Drum	95.6mm	White spot
2	Charge Roller	38.5mm	Black spot
3	Supply Roller	45.3mm	Horizontal density band
4	Develop Roller	47.1mm	Horizontal density band
5	Transfer Roller	56.1mm	Black side contamination/transfer fault
6	Heat Roller	69.3mm	Black spot and fuser ghost
7	Pressure Roller	72.5mm	Black side contamination

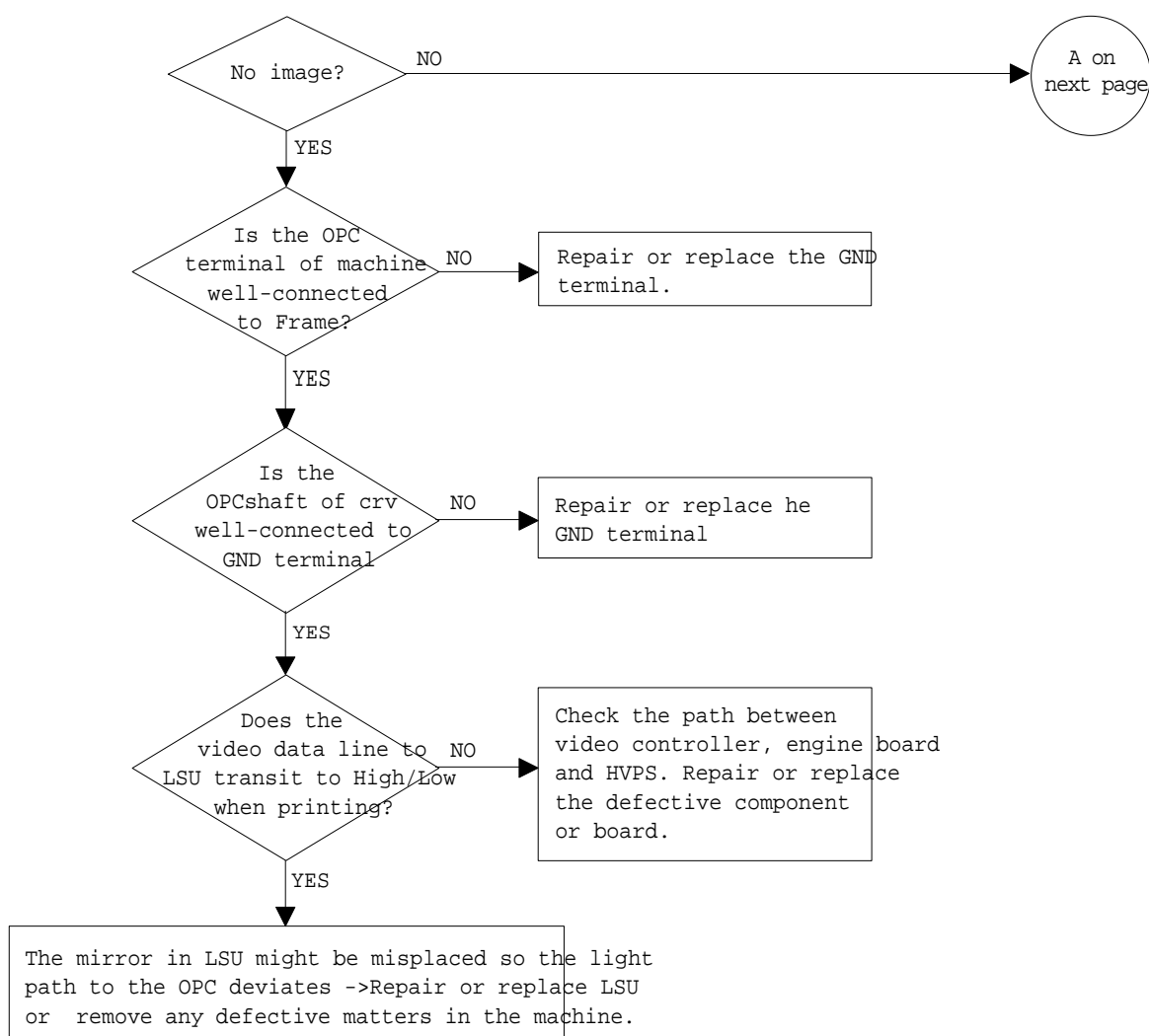
4-3 Print Quality

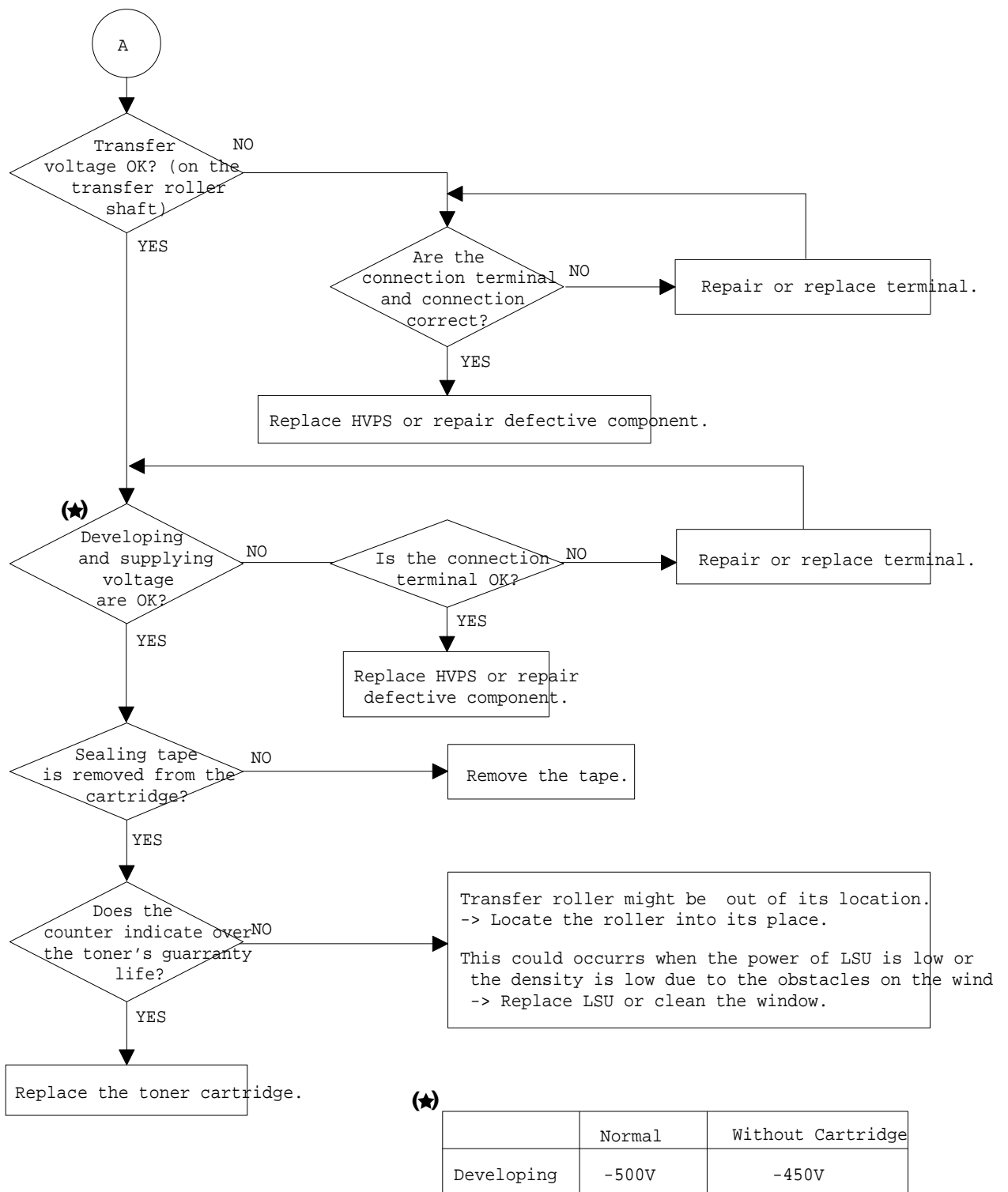
Notice

In the ML-6060 Series system, the Developing/Supplying bias is set to decrease by -50V increments when the system load is over the specified value. Therefore, if you check the bias without the toner cartridge, the system load is recognized to be infinity and Developing/Supplying bias decreases by -50V increments. At the first warm-up after the printer is powered on and then off, the software does not have the data on system load, so the Developing/Supplying bias measures -500V/-650V, the basic voltage. And, from the second warm-up and on, the software has the data on system load, so the bias measures -450V/-600V, which is less -50V than the basic voltage.

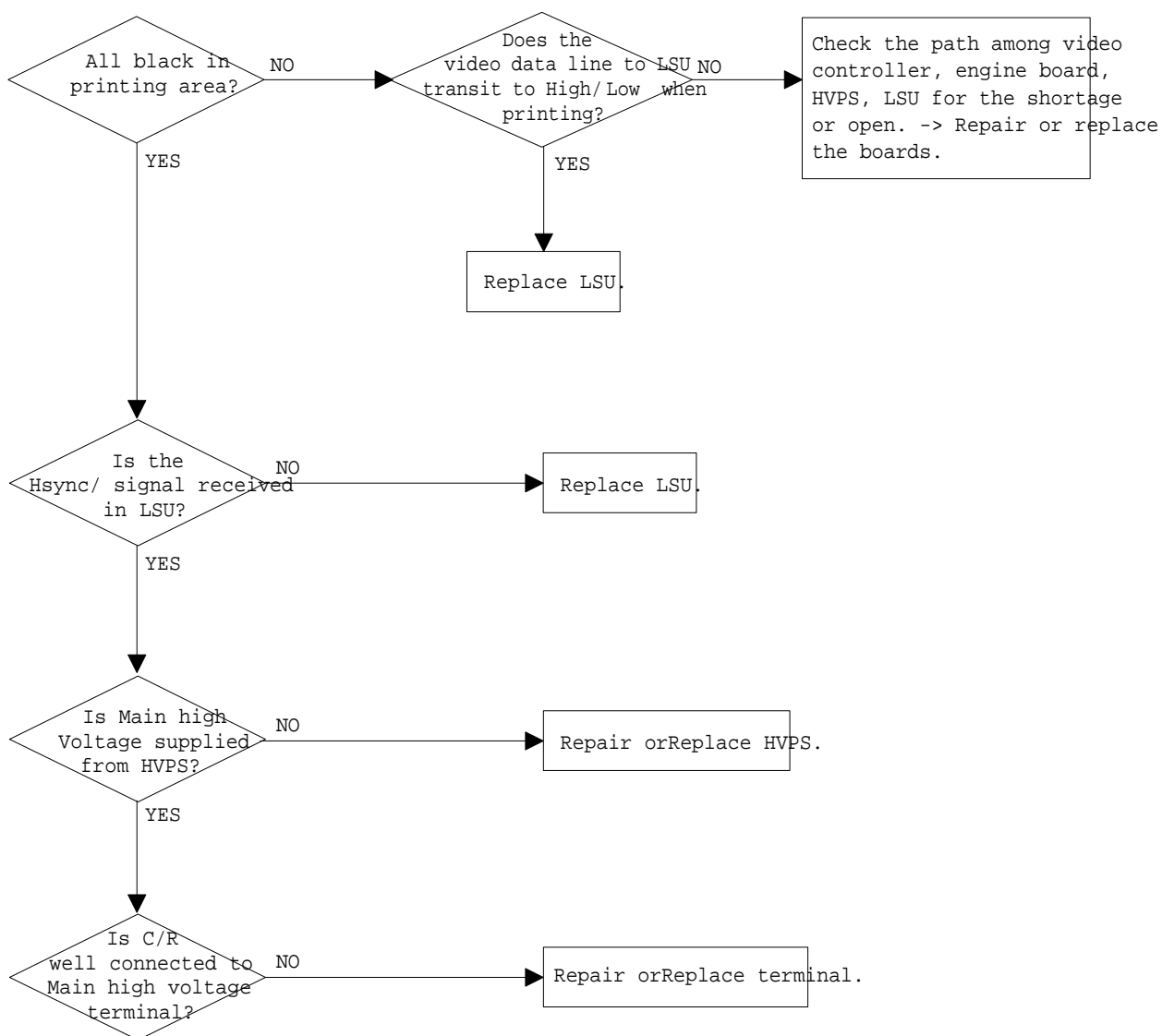
Without cartridge	First Warm-up	Second Warm-up
Developing Bias	-500V	-450V
Supplying Bias	-6500V	-600v

4-3-1 No Image

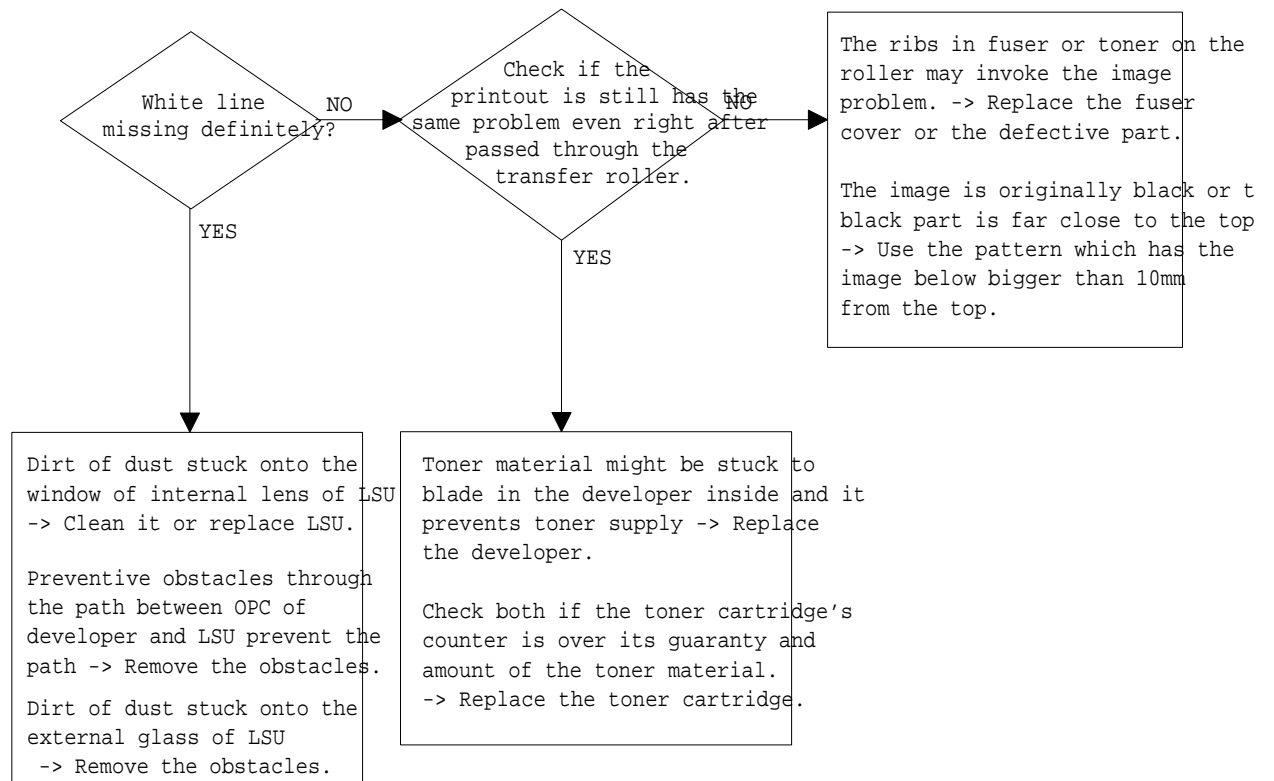




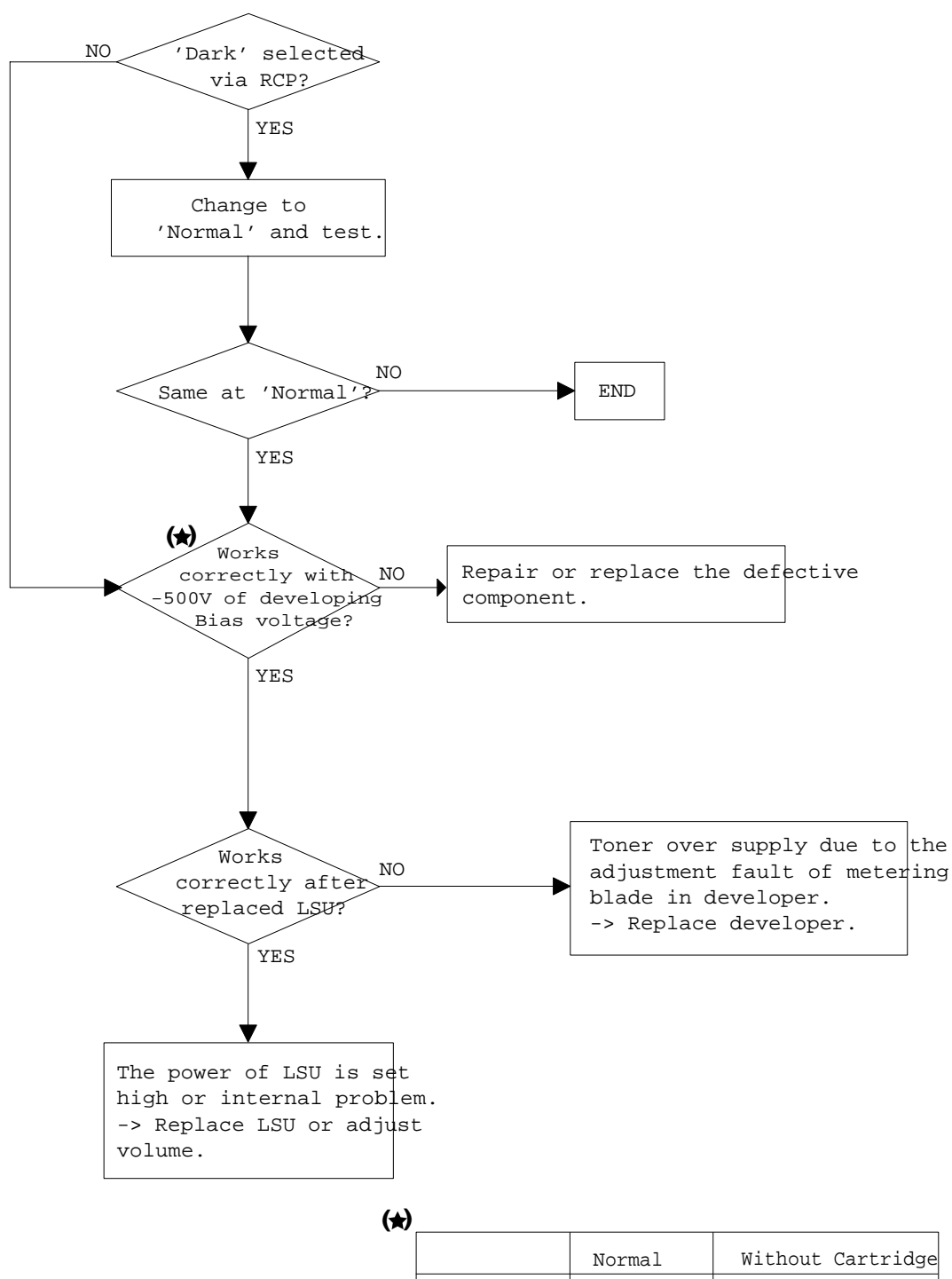
4-3-2 All Black



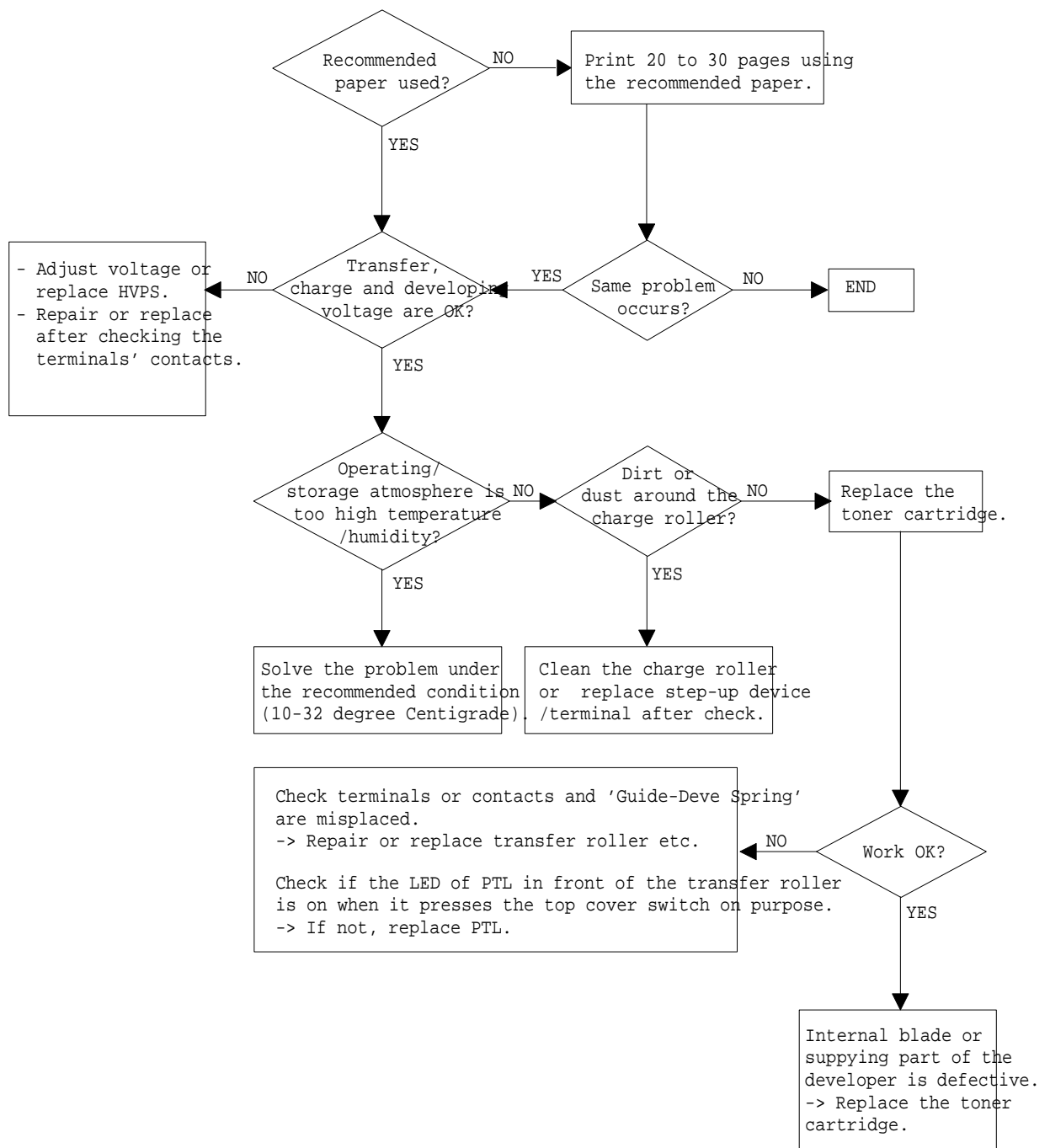
4-3-3 Vertical White Line (Band)



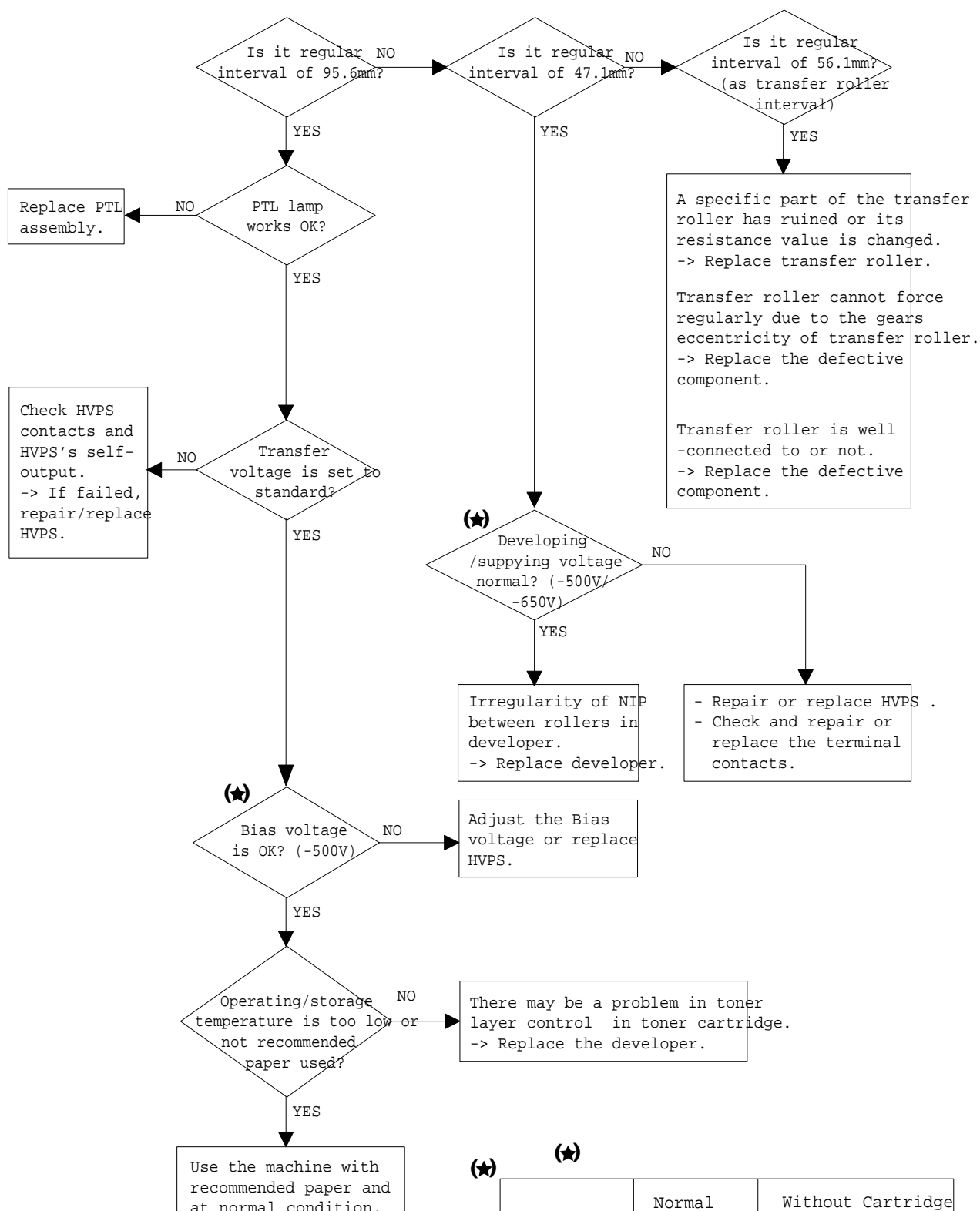
4-3-4 Dark Image



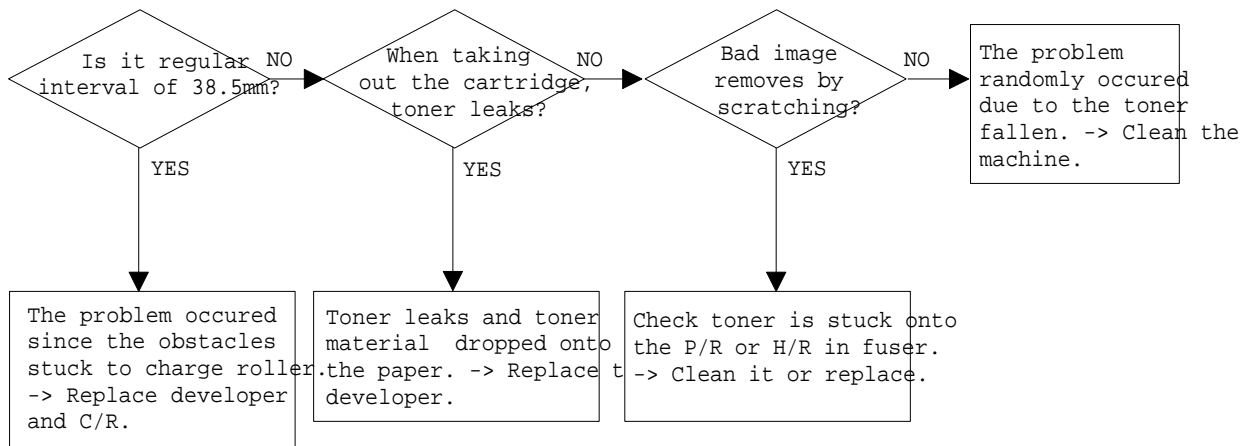
4-3-5 Background



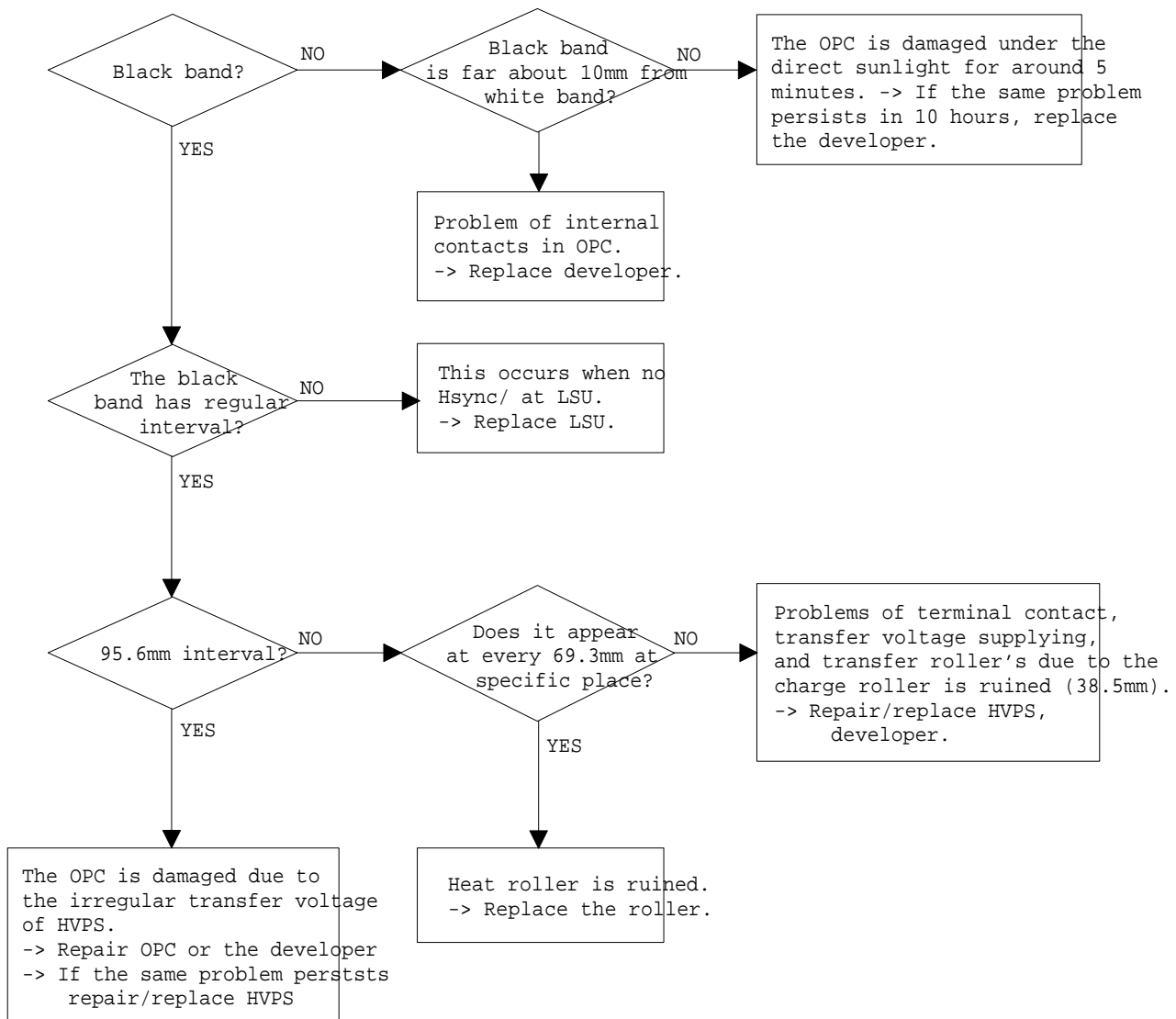
4-3-6 Ghost



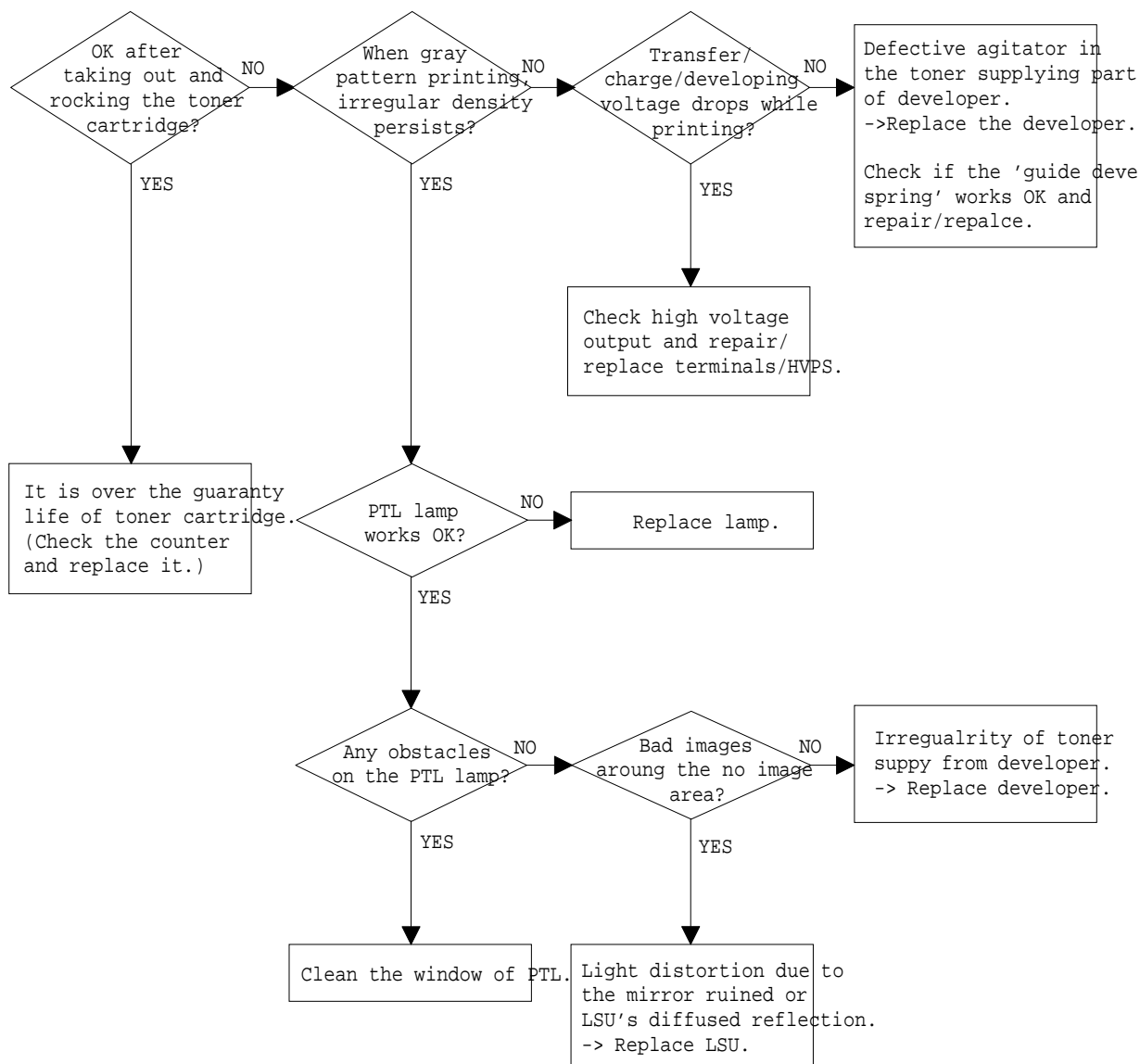
4-3-7 Black Dot



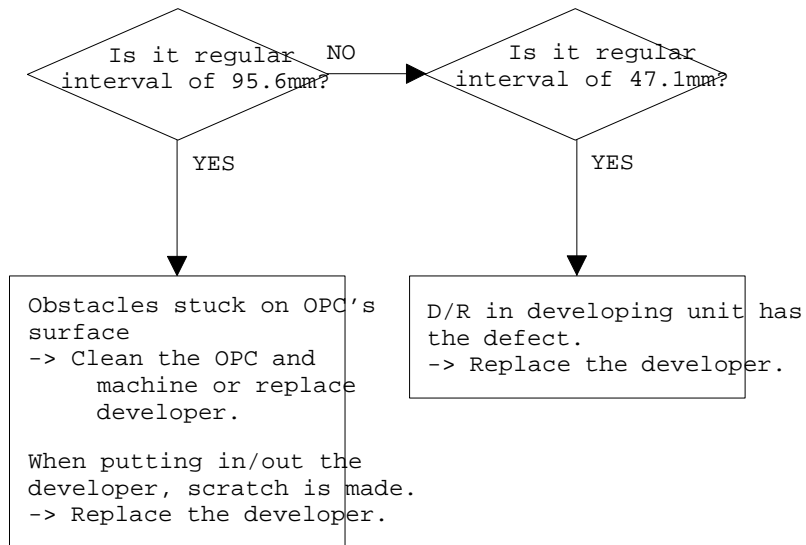
4-3-8 Horizontal Band



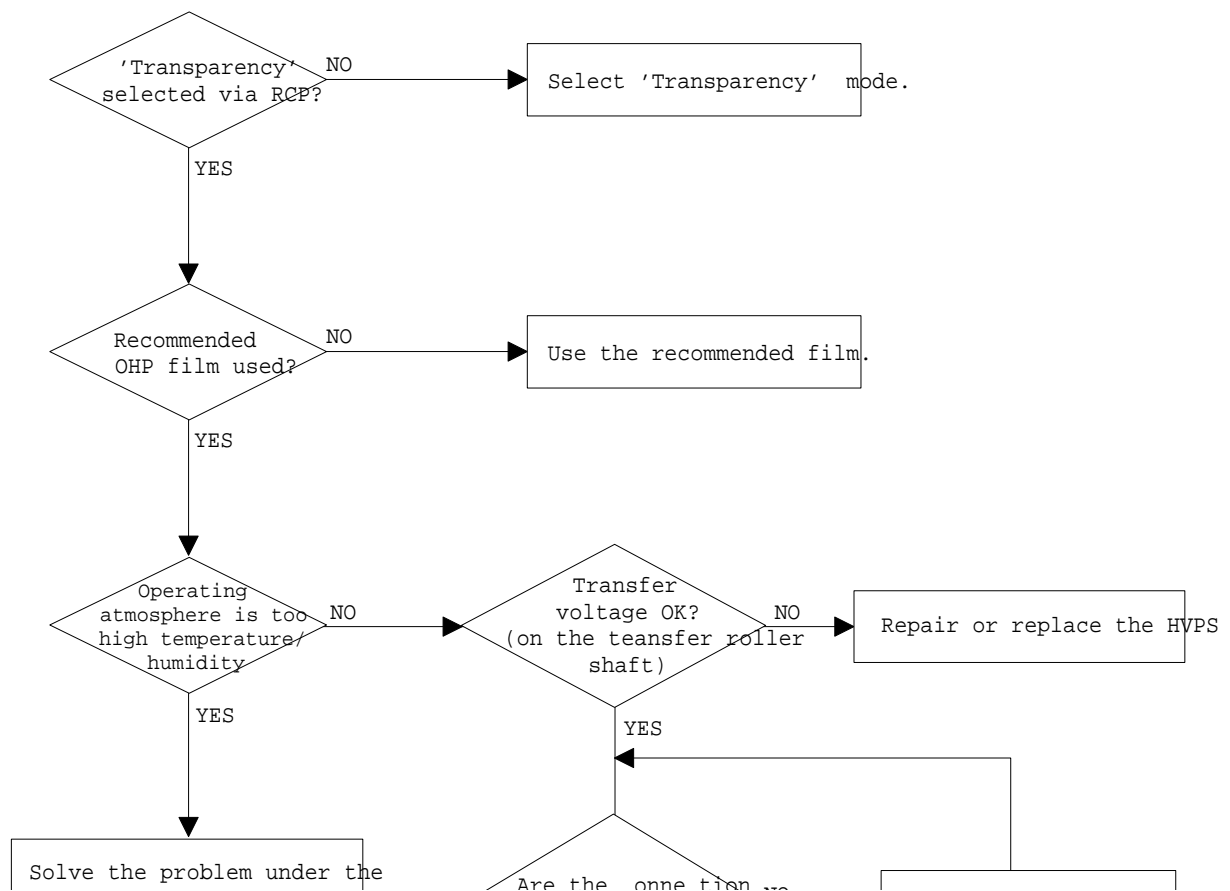
4-3-9 Irregular Density



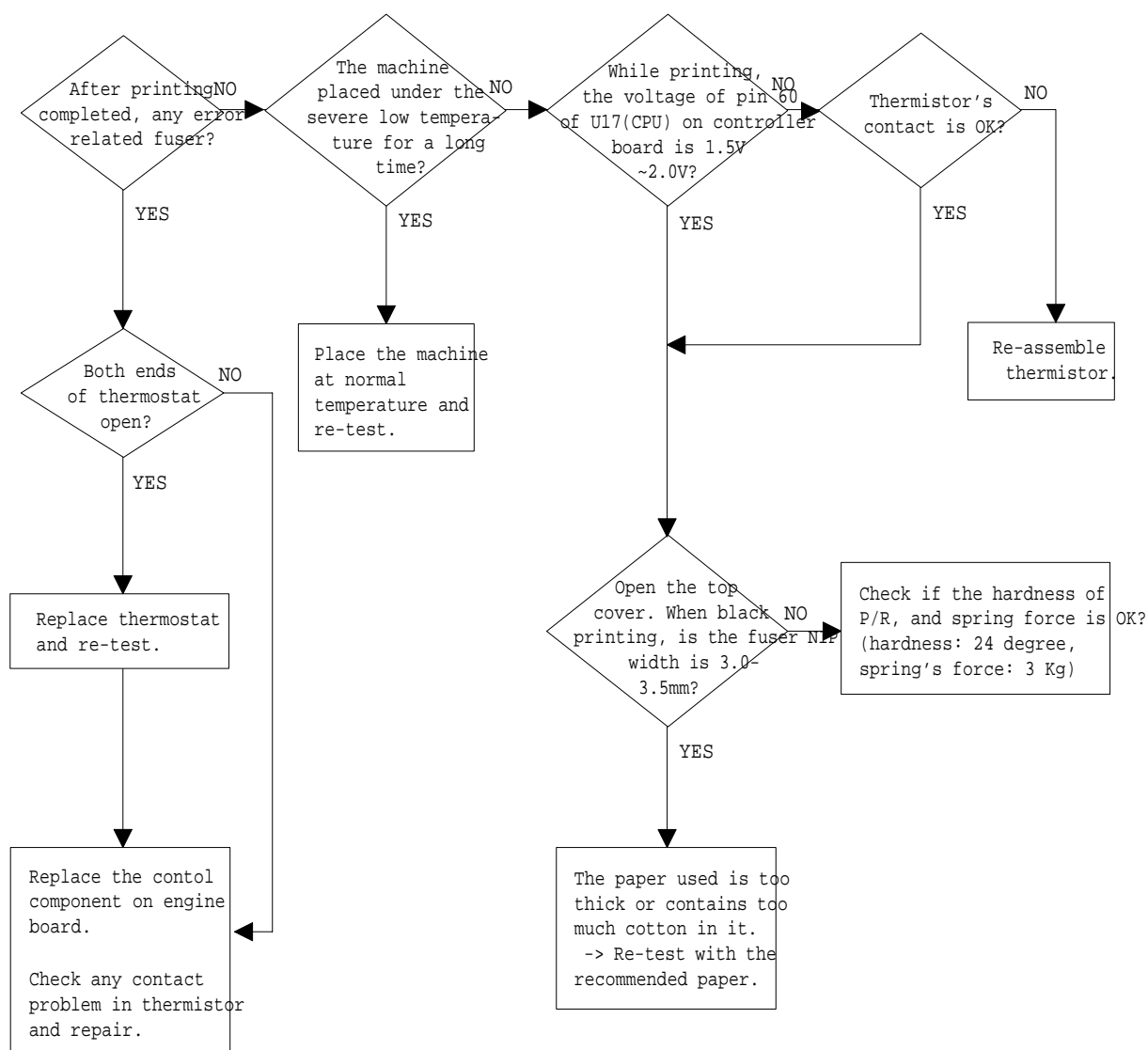
4-3-10 White Spot



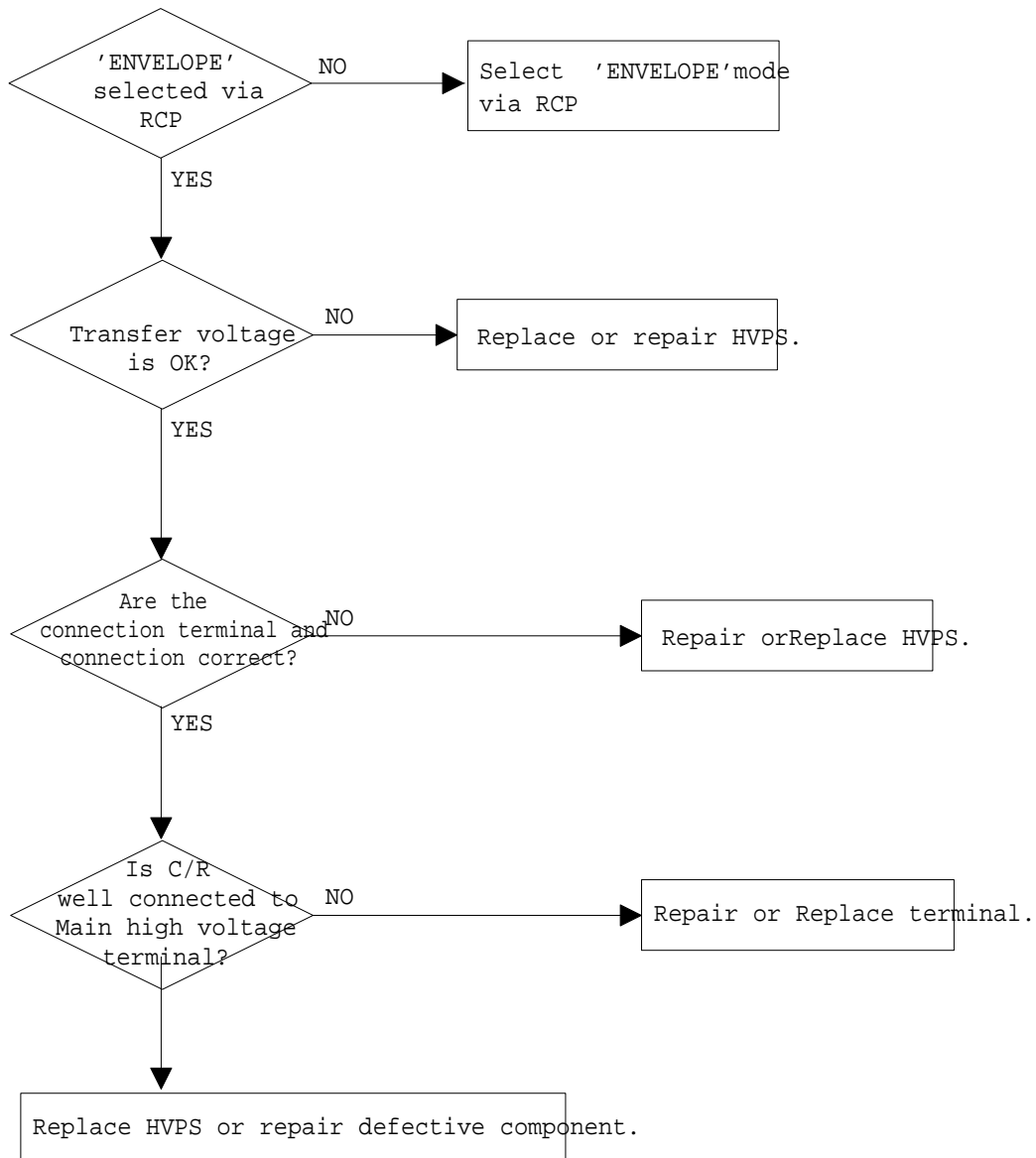
4-3-11 Trembling at the End When OHP Printing



4-3-12 Poor Fusing Grade

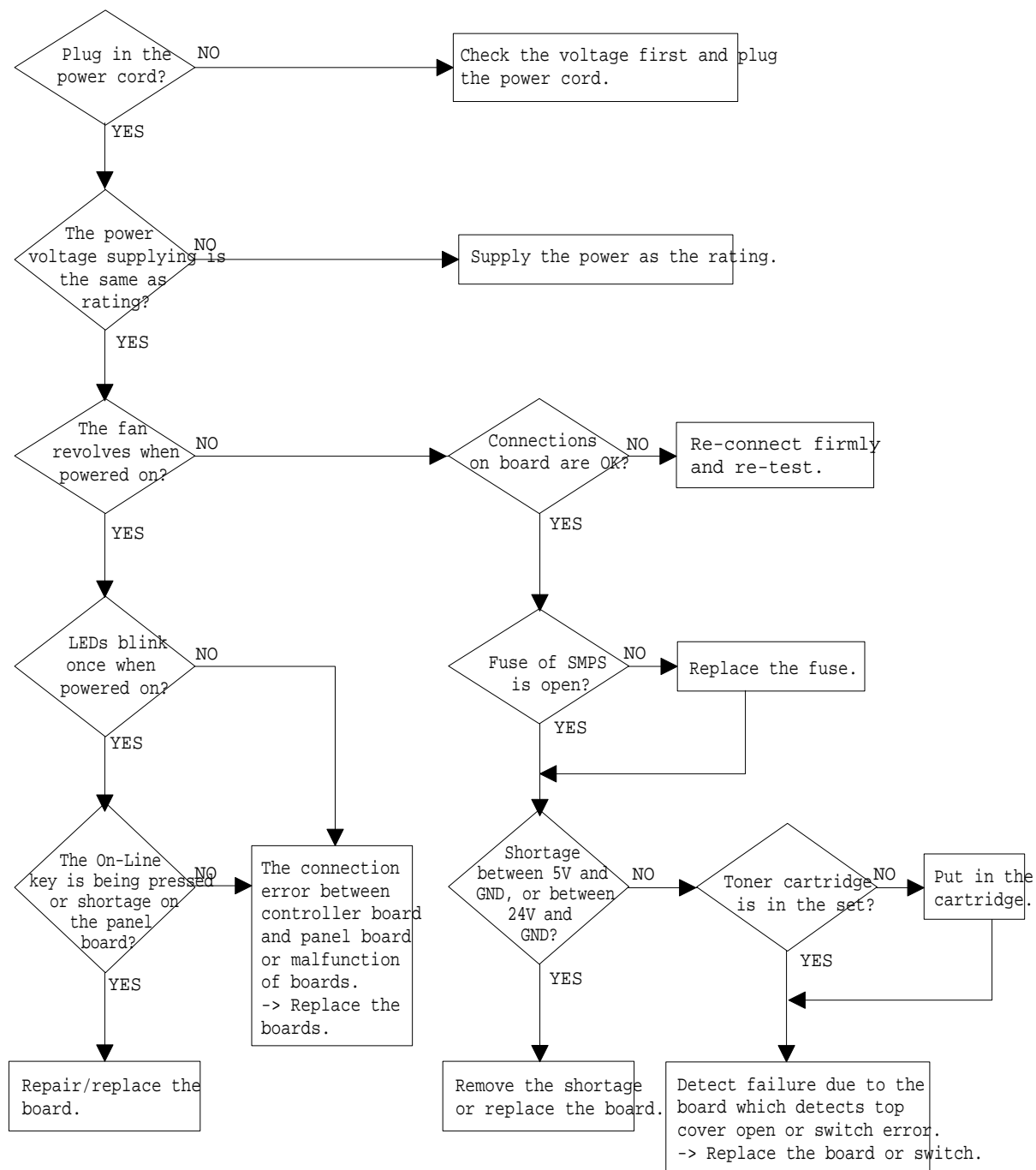


4-3-13 Poor transfer and poor fusing when ENVELOPE printing

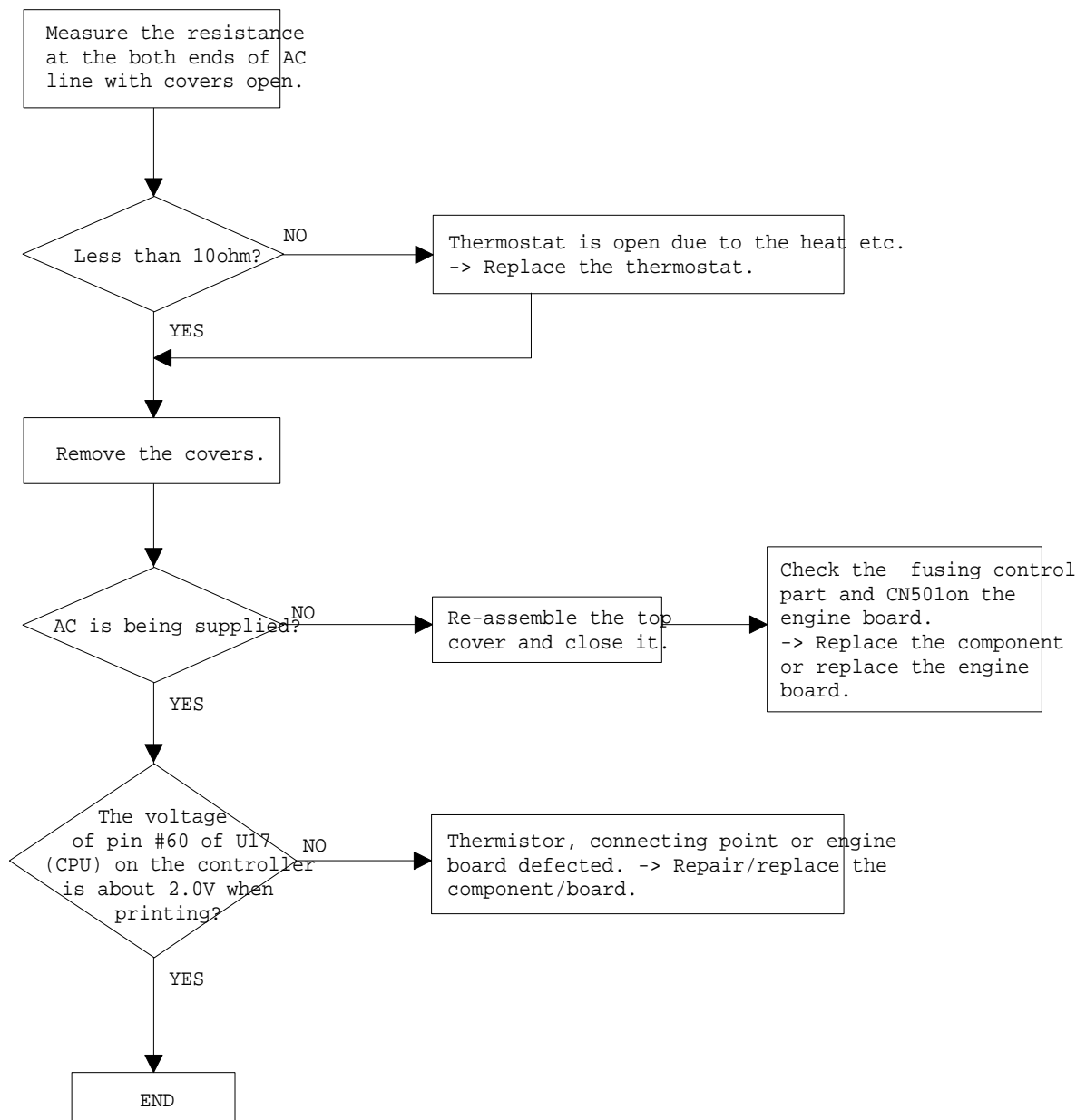


4-4 Malfunction

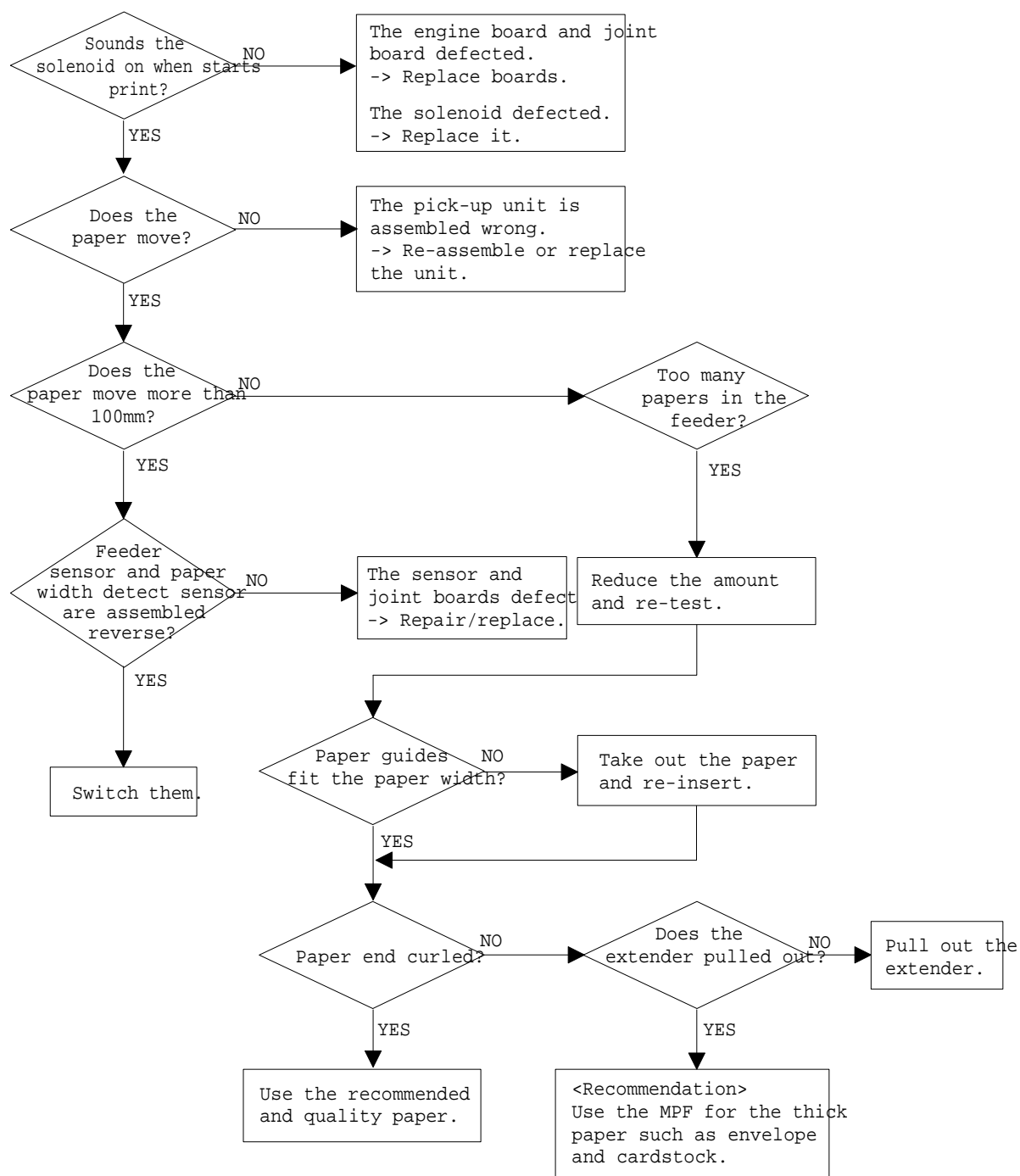
4-4-1 No Power (LED Off)



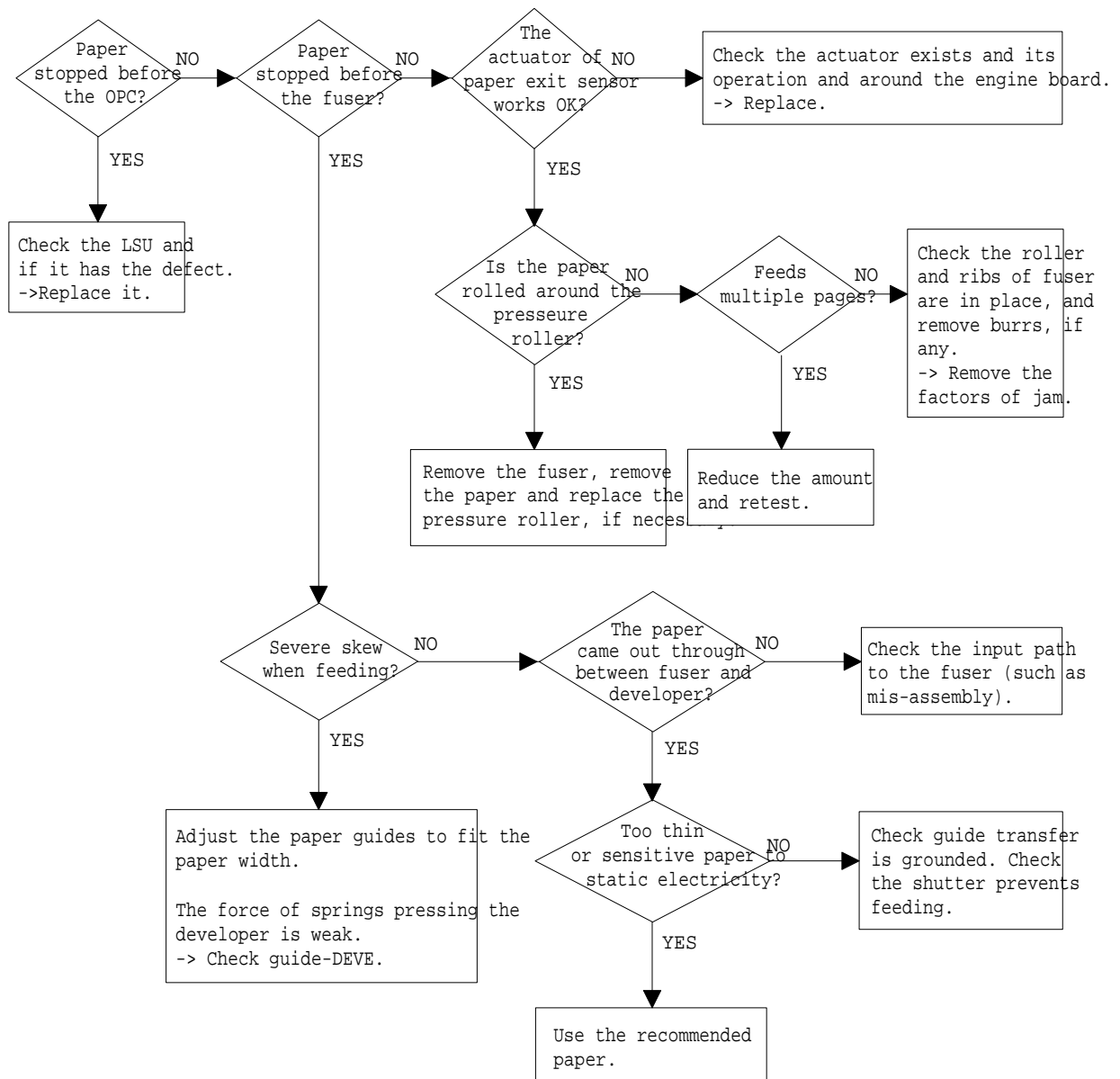
4-4-2 Fuser Error



4-4-3 Paper Jam (Mis-feeding)



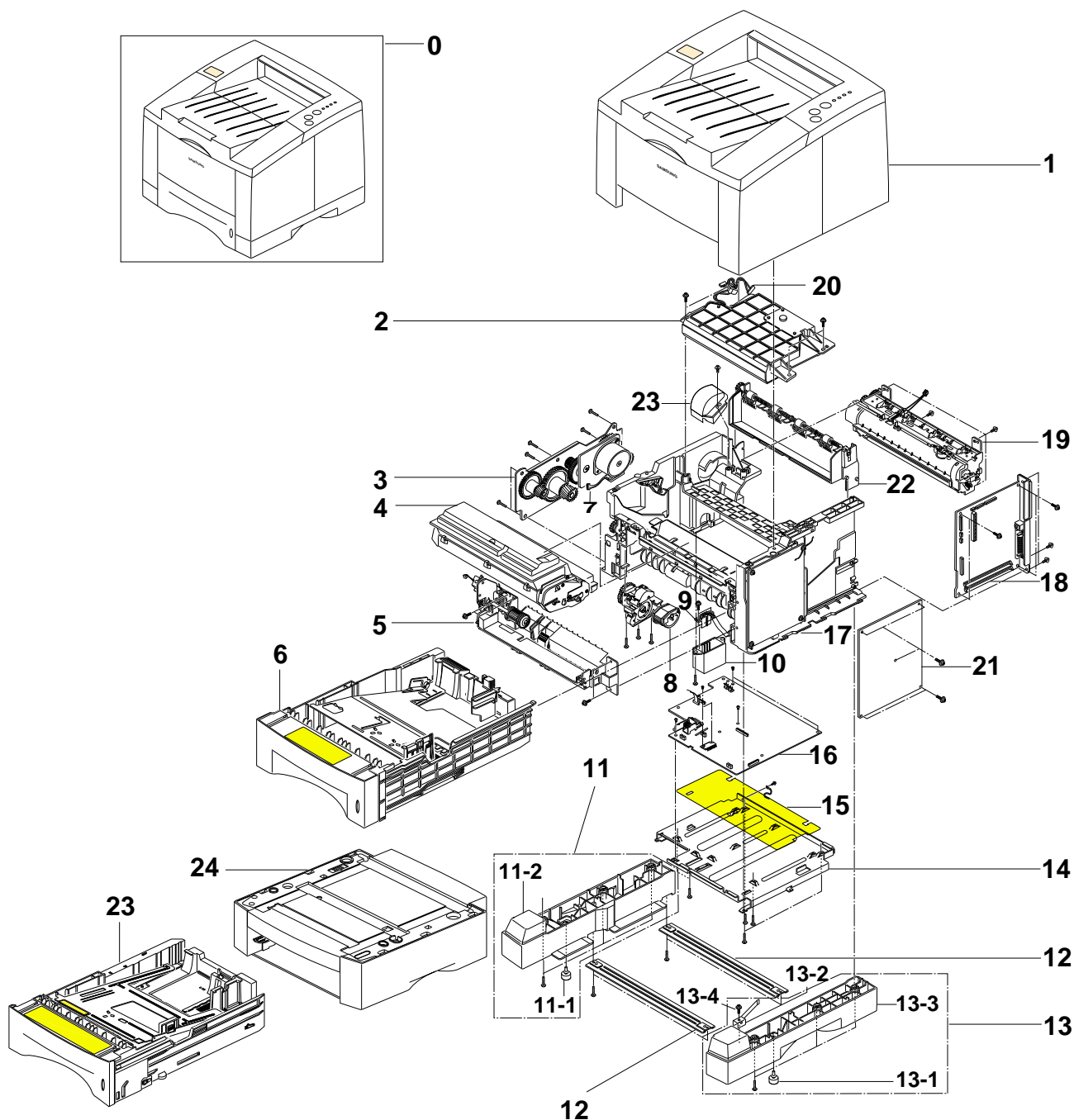
4-4-4 Paper Jam (Jam 1)



5. Exploded Views and Parts Lists(ML-6060)

- 5-1 Main Exploded View & Parts Lists**
- 5-2 Cover Exploded View & Parts Lists**
- 5-3 Frame Exploded View & Parts Lists**
- 5-4 Exit Exploded View & Parts Lists**
- 5-5 Fuser Exploded View & Parts Lists**
- 5-6 Rack-MPF Exploded View & Parts Lists**
- 5-7 Drive Exploded View & Parts Lists**
- 5-8 Pick-Up Exploded View & Parts Lists**
- 5-9 Cassette Exploded View & Parts Lists**

5-1 Main Exploded View



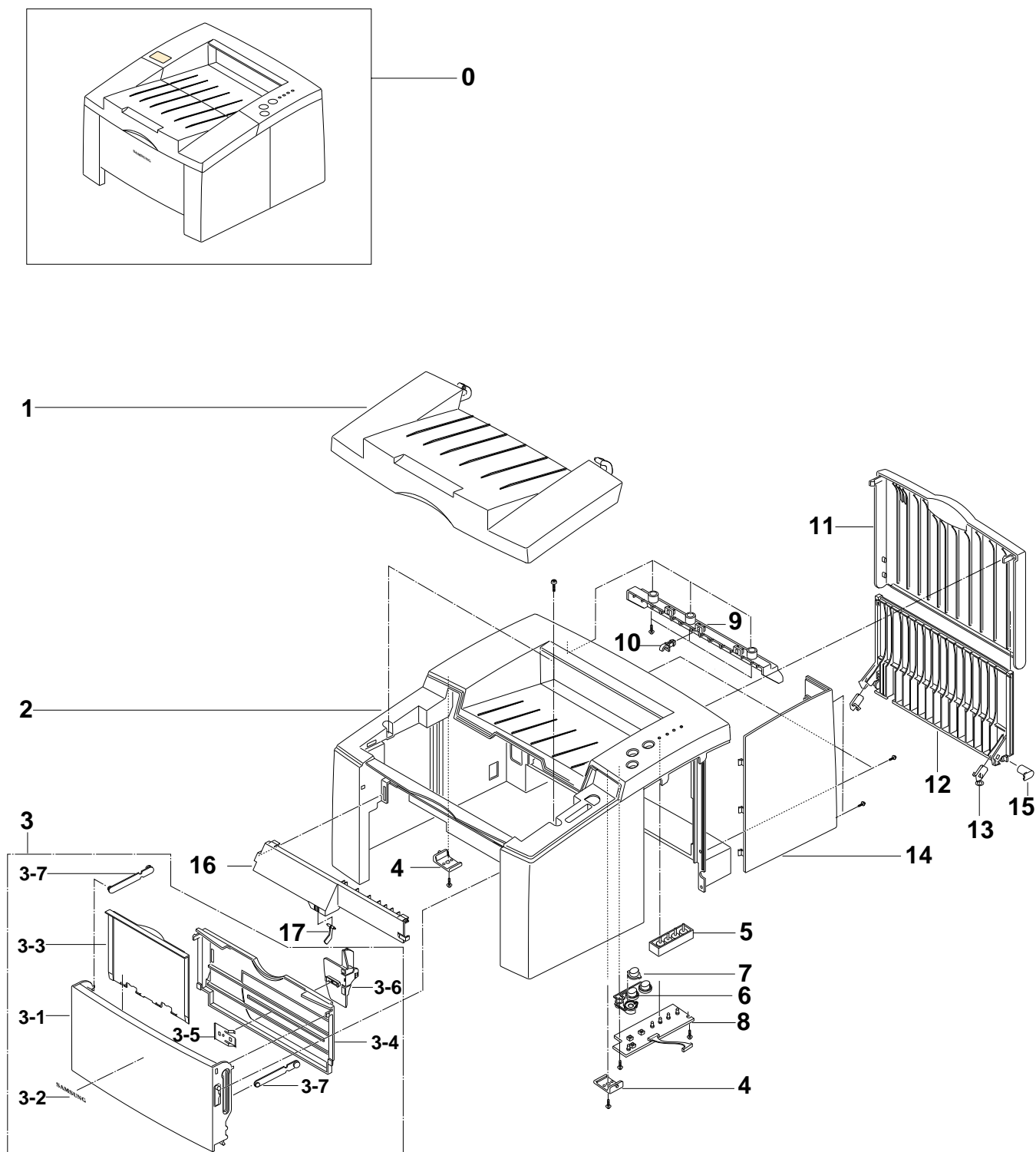
Main Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
1	ELA HOU TOP-HOUSING	JC96-01590A	1	X	
2	UNIT-LSU	JC59-00004A	1	O	
3	ELA UNIT-MOTOR	JC96-01656A	1	O	
4	ELA UNIT-DEVE	JC96-01559D	1	X	
5	ELA HOU-MPF	JC96-01650A	1	O	
6	MEA RACK-FEEDER CST	JC97-01323A	1	O	550SHEETS
7	CBF-HARNESS-MOTOR	JC39-00074A	1	X	
8	MEA UNIT-FEEDER	JC97-01324A	1	O	
9	PMO-CAP SENSOR	JC72-00320A	1	O	
10	PMO-HOLDER SCF CN	JC72-00327A	1	O	
11	MEA UNIT-BRKT BOTTOM(L)	JC97-01315A	1	O	
11-1	FOOT-RUBBER	JC61-40001A	1	X	
11-2	PMO-BRKT BASE L	JC72-00328A	1	X	
12	IPR-BAR CROSS BOTTOM	JC70-00098A	2	O	
13	MEA UNIT-BRKT BOTTOM(R)	JC97-01316A	1	O	
13-1	FOOT-RUBBER	JC61-40001A	1	X	
13-2	IPR-PLATE CST GAIDE	JC70-10924A	1	X	
13-3	PMO-BRKT BASE R	JC72-00329A	1	X	
13-4	SCREW-TAPTITE	6003-000196	1	X	
14	SHIELD-PCU	JC70-00080A	1	O	
15	PCT-INSULATOR PCU	JC72-00334A	1	O	
16	PBA MAIN-ENGINE_V1	JC92-01187A	1	O	110V
16	PBA MAIN-ENGINE_V2	JC92-01190A	1	O	220V
17	ELA UNIT-FRAME BASE	JC96-01641C		O	
18	PBA MAIN CTRL	JC92-01171A	1	O	6060
18	PBA MAIN CTRL	JC92-01215A	1	O	6060N
19	ELA UNIT-FUSER	JC96-01732B	1	O	110V
	ELA UNIT-FUSER	JC96-01732C	1	O	220V
20	CBF HARNESS-LSU	JC39-00074A	1	X	
21	PCB PWR-HVPS	JC92-01175A	1	O	
22	MEA RACK-HOU EXIT	JC97-01338A	1	O	
23	PMO-DUCT FAN	JC72-00582A	1	O	
24	MEA RACK-CAST,SCF	-	1	X	OPTIONAL
25	ELA HOU-SCF	-	1	X	OPTIONAL

O: Service available X: Service not available

5-2 Top Exploded View



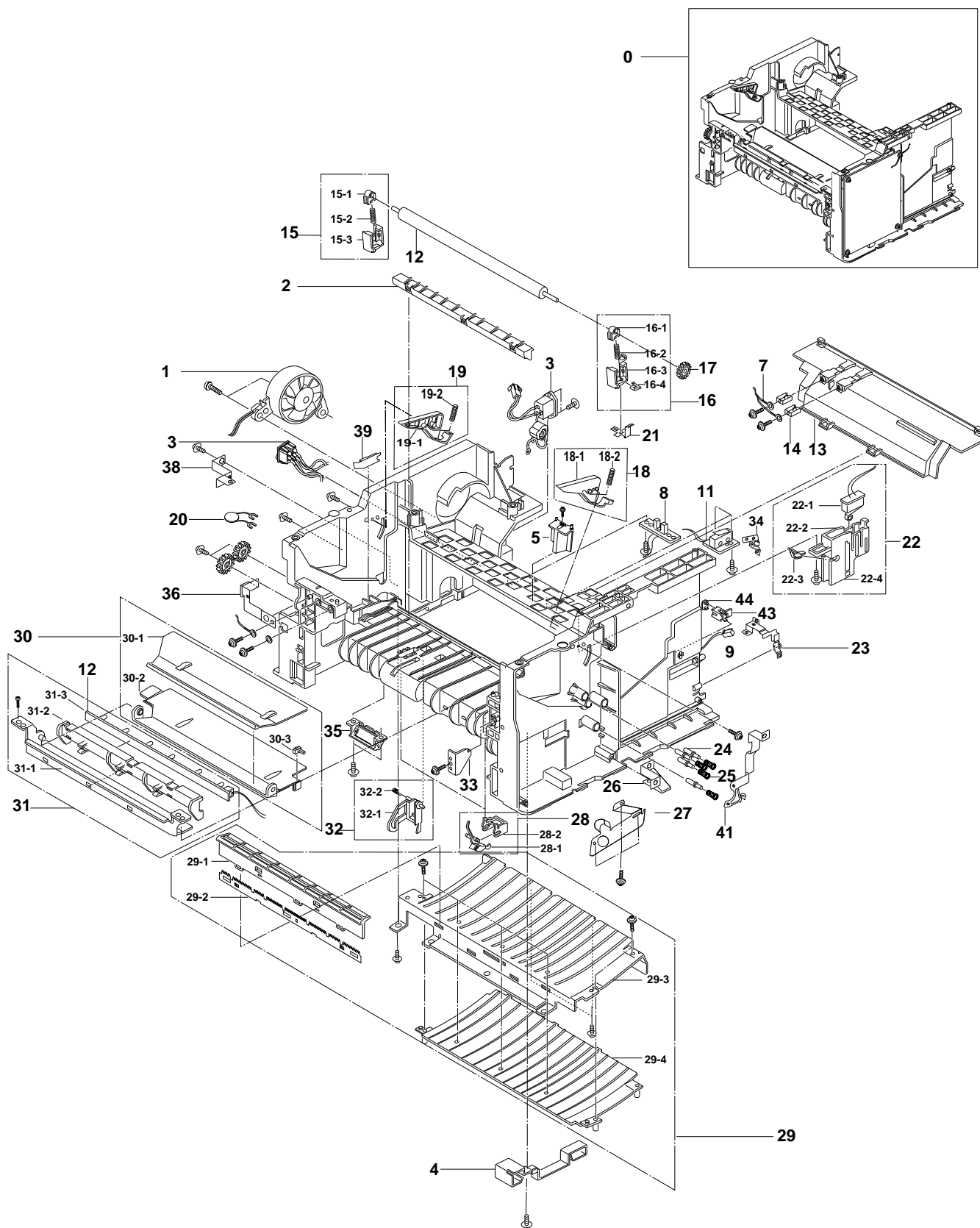
Top Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA-HOU COVER MAIN	JC96-01612A	1	O	
1	PMO-COVER OPEN	JC72-00331A	1	X	
2	PMO-COVER MAIN	JC72-00330A	1	X	
3	MEA UNIT-MP TRAY	JC97-01325A	1	O	
3-1	PMO-COVER-MP	JC72-00349A	1	X	
3-2	NPR-BADGE (45)	JC71-00010A	1	X	
3-3	PMO-TRAY EXTENSION MP	JC72-00354A	1	X	
3-4	PMO-TRAY HOLDER MP	JC72-00353A	1	X	
3-5	IPR-GUIDE LATCH	JB70-10906A	1	X	
3-6	PMO-ADJUSTER_P SIDE	JC72-41381A	1	X	
3-7	PMO-TRAY LINK MP	JC72-00350A	2	X	
4	STOPPER HINGE OPEN	JC72-00482A	2	X	
5	PMO-LENS LED	JC72-00365A	1	X	
6	PMO-KEY BUTTON	JC72-00499A	1	X	
7	PMO-KEY SAVE MODE	JC72-00500A	1	X	
8	PBA LED PANEL-II	JC92-01208B	1	X	
9	PMO-GUIDE EXIT	JC72-00326A	1	X	
10	PMO-BUSHING F/DOWN	JC72-00387A	1	X	
11	PMO-COVER REAR	JC72-00355A	1	X	
12	PMO-SACKER REAR	JC72-00356A	1	X	
13	IPR-SPRING LOCKER REAR	JC70-00088A	2	X	
14	PMO-COVER CONTROLLER	JC72-00358A	1	O	
15	PMO-CAP REAR	JC72-00503A	1	X	
16	PMO-SUPPORT MP TRAY	JC72-00501A	1	X	
17	PMO-LEVER_EMPTY, MP	JC72-41353A	1	X	
S1	SCREW-TAPTITE	6003-000196	7	X	

O: Service available X: Service not available

5-3 Frame Exploded View



Frame Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA UNIT-FRAME BASE				
1	FAN-DC-HAWK	JC31-00004A	1	O	
2	PMO-GUIDE RIB	JC72-00464A	1	X	
3	CBF HARNESS-INLET ASS'Y	JC39-00073A	1	X	
4	PMO-HOLDER WIRE	JC72-00471A	1	X	
5	KEY DEVE	JC72-00550A	1	X	
6	CBF HARNESS-ENGINE_CONTROL	JC39-00069A	1	X	
7	CBF-HARNESS_FUSER	JC39-00085A	1	X	
8	PBA SUB-EXIT SENSOR	JC92-01234A	1	X	
9	CBF-HARNESS-THERMISTOR JOINT	JC39-00084A	1	X	
10	CBF-HARNESS-MP_CLUTCH ENG	JC39-00076A	1	X	
11	PBA SUB-FUSER_SW	JC92-01261A	1	O	
12	MEC-ROLLER TRANSFER	JC75-10963B	1	O	
13	PMO-FRAME COVER	JC72-00325A	1	X	
14	IPR-TERMINAL FU	JC70-10961A	2	X	
15	ELA-UNIT-HOLDER TR L	JC96-01730A	1	O	
15-1	PMO-BUSHING TR	JC72-41142A	1	X	
15-2	SPRING TR L	JC61-00047A	1	X	
15-3	PMO-TRANSFER HOLDER	JC72-41145D	1	X	
16	ELA-UNIT-HOLDER TR R	JC96-01729A	1	O	
16-1	PMO-BUSHING TR	JC72-41142A	1	X	
16-2	SPRING TR R	JC61-00046A	1	X	
16-3	PMO-TRANSFER HOLDER	JC72-41145C	1	X	
16-4	IPR-PLATE TR	JC70-11053A	1	X	
17	GEAR-TR 29	JC66-00039A	1	O	
18	ELA UNIT-GUIDE DEVE L	JC96-01643A	1	O	
18-1	PMO-GUIDE DEVE L	JC72-00317A	1	X	
18-2	SPRING GUIDE DEVE	JC61-70932A	1	X	

O: Service available X: Service not available

Frame Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
19	ELA UNIT-GUIDE DEVE R	JC96-01642A	1	O	
19-1	PMO-GUIDE DEVE R	JC72-00318A	1	X	
19-2	SPRING GUIDE DEVE	JC61-70932A	1	X	
20	ELA HOU-VARISTOR	JC96-01772A	1	O	
21	IPR-TERMINAL TR	JC70-00132A	1	X	
22	ELA UNIT-SENSOR DEVE	JC96-01644A	1	X	
22-1	PBA SUB-SWITCH	JC92-01235A	1	X	
22-2	PMO-HOLDER ACTUATOR	JC72-00324A	1	X	
22-3	PMO-ACTUATOR DEVE	JC72-00322A	1	X	
23	GROUND FU	JC70-00073A	1	X	
24	ICT-SHAFT HV LARGE	JC70-40912A	1	X	
25	SPRING HV LARGE	JC61-00031A	1	X	
26	GROUND-HVPS	JC70-00070A	1	X	
27	IPR-REMOVE KEY	JC70-00139A	1	O	
28	ELA UNIT-ACTUATOR FEED	JC96-01647A	1	X	
28-1	PMO-ACTUATOR FEED	JC72-00336A	2	X	
28-2	PMO-HOLDER ACTUATOR	JC72-41289A	2	X	
29	ELA UNIT-GUIDE TRANSFER	JC96-01645A	1	X	
29-1	PMO-HADER SAW PLATE	JC72-40247A	1	X	
29-2	IPR-PLATE SAW	JC70-10232A	1	X	
29-3	IPR-GUIDE TRANSFER	JC70-00126A	1	X	
29-4	PMO-GUIDE RIB TR	JC72-00497A	1	X	
30	ELA UNIT-GUIDE FEED	JC96-01653A	1	O	
30-1	PMO-GUIDE OPTIC	JC72-00333A	1	X	
30-2	GUIDE FEED	JC70-00076A	1	X	
30-3	PMO-HOLDER G/PAPER	JC72-41020A	1	X	
31	ELA UNIT-PTL	JC96-01606A	1	O	
31-1	GUIDE PLATE FEED	JC70-00077A	1	X	
31-2	PMO-HOLDER PTL	JC72-00319A	1	X	

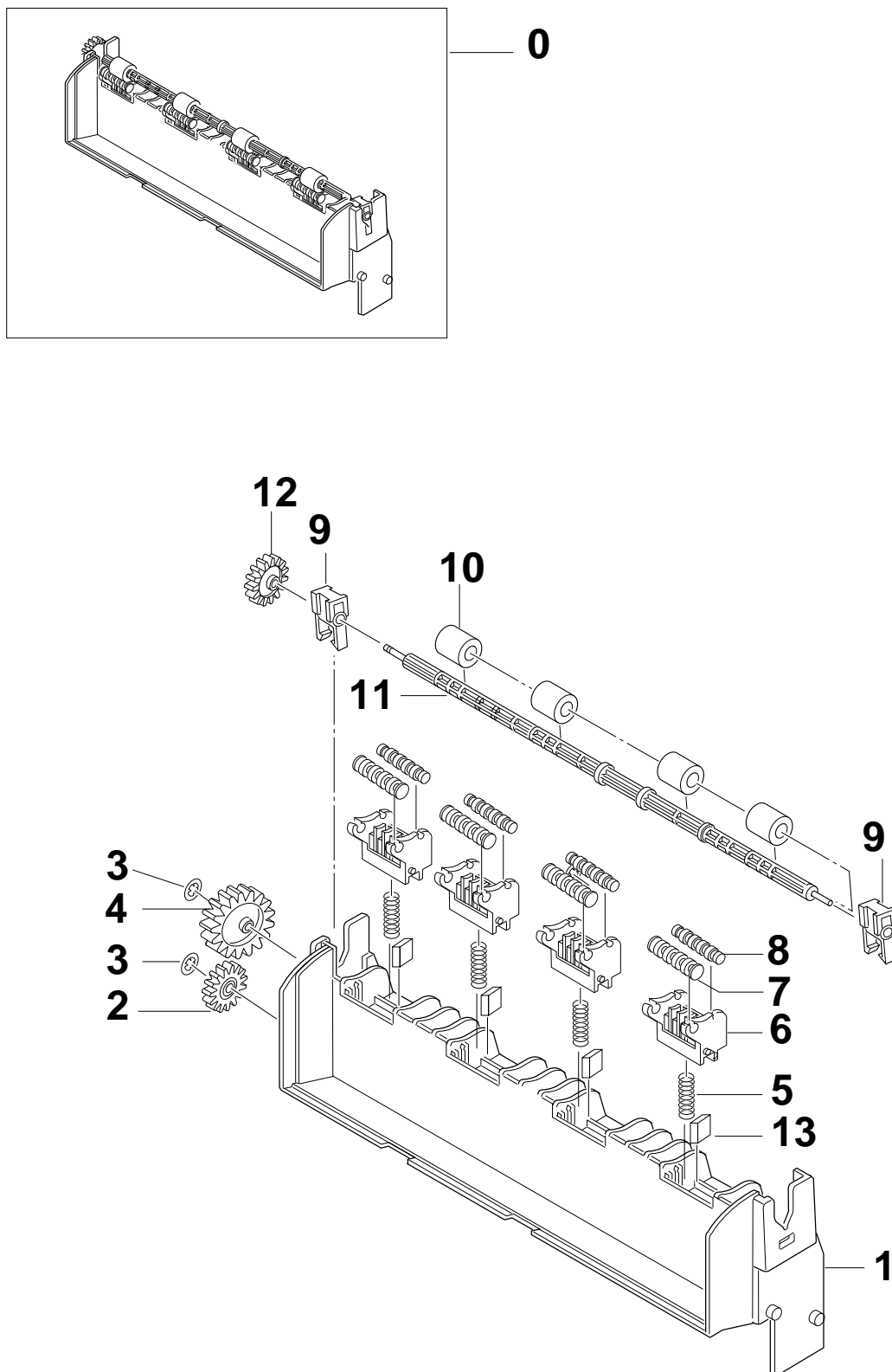
O: Service available X: Service not available

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
32	ELA UNIT-EMPTY ACT	JC96-01720A	1	X	
32-1	PMO-ACTUATOR EMPTY HAWK	JC72-00493A	1	X	
32-2	SPRING EMPTY	JC61-70965A	1	X	
33	PMO-HINGE GUIDE FEED	JC72-00321A	1	O	
34	GND ICU	JC70-00142A	1	O	
35	PMO-CAP SENSOR	JC72-00320A	1	X	
36	GND MP	JC70-00091A	1	X	
37	GEAR P/UP DRV	JC66-40219A	1	O	
38	GROUND MOTOR	JC70-00072A	1	X	
39	IPR-GUIDE DUST	JC70-11068A	1	X	
41	IPR-OPC-HAWK	JC70-00125A	1	X	
42	CAP CONNECTOR L	JC72-00463A	1	X	
43	CAP CONNECTOR U	JC72-00465A	1	X	

O: Service available X: Service not available

5-4 Exit Exploded View



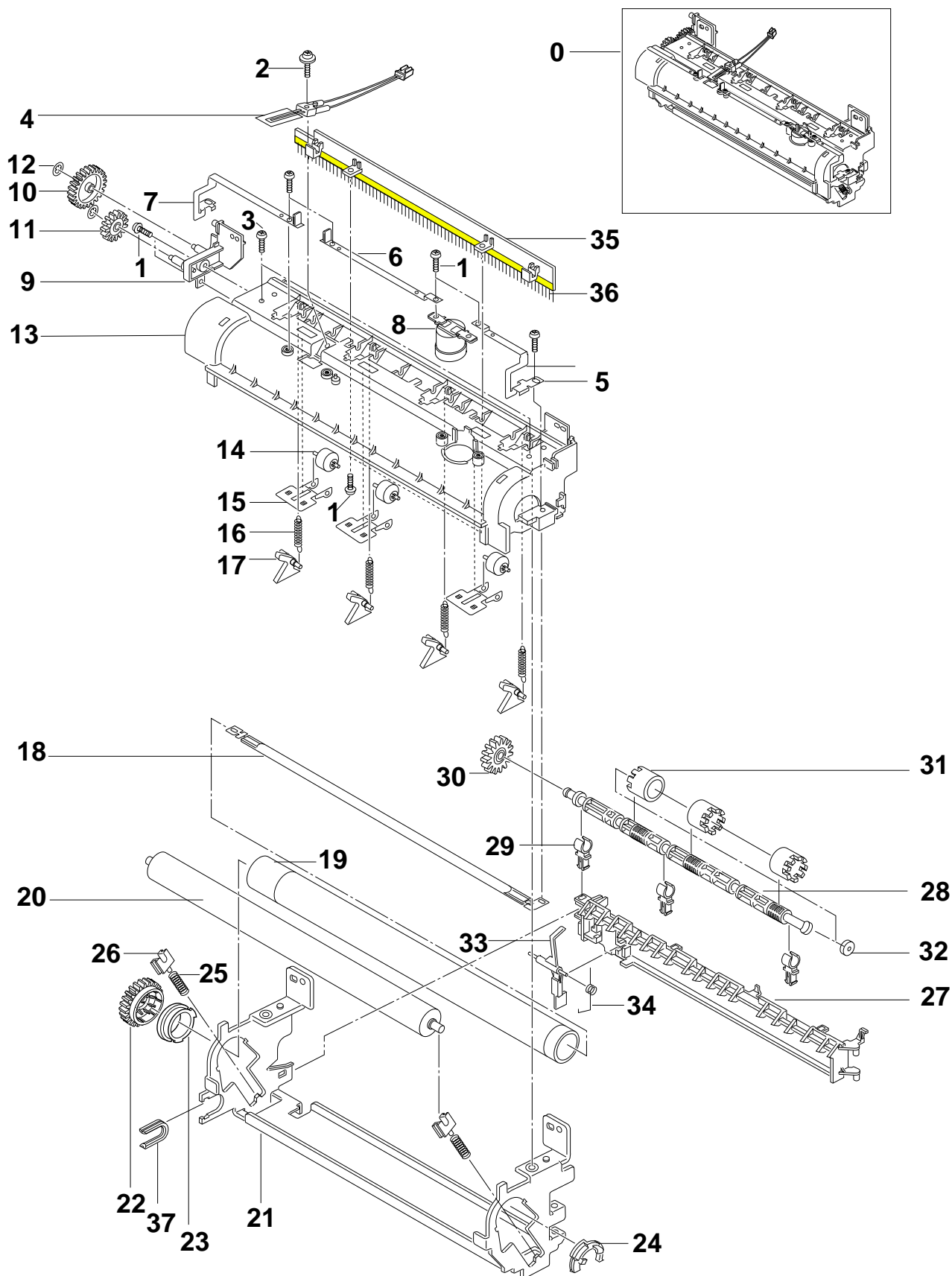
Exit Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	MEA RACK-HOU EXIT	JC97-01338A	1	O	
1	PMO-FRAME REAR	JC72-00386A	1	X	
2	GEAR-IDLE 15	JC66-00029A	1	X	
3	RING-CS	6044-000001	2	X	
4	GEAR-IDLE 25	JC66-00030A	1	X	
5	SPRING-F/DOWN	JC61-00043A	4	X	
6	PMO-HOLDER EXIT_F/DOWN	JC72-00388A	4	X	
7	PMO-ROLLER-EXIT, MAIN	JC72-41081A	4	X	
8	PMO-ROLLER-EXIT, FR	JC72-41082A	4	X	
9	MEC-BEARING EXIT	JC75-10529A	2	X	
10	RMO-RUBBER EXIT	JC73-40915A	4	X	
11	PMO-SHAFT EXIT_F/DOWN	JC72-00384A	1	X	
12	GEAR-EXIT	JC66-40209A	1	O	
13	RMP-RUBBER EXIT_F/UP	JC73-00040A	4	X	

O: Service available X: Service not available

5-5 Fuser Exploded View



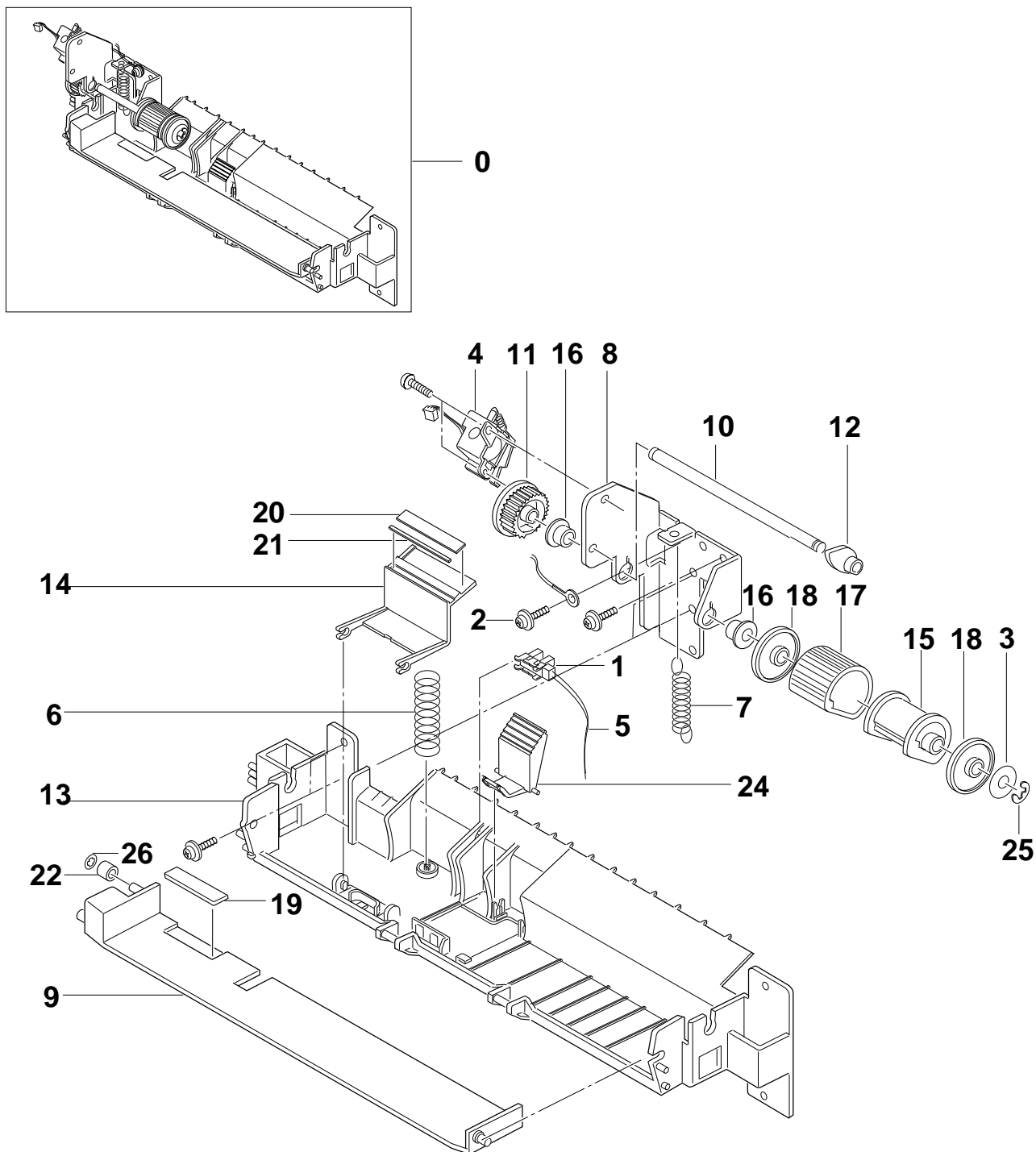
Fuser Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA UNIT FUSER (110V)	JC96-01732B	1	O	110V
	ELA UNIT FUSER (220V)	JC96-01732C	1	O	220V
1	SCREW TAPTITE M3 x 8, BH+	6003-000119	6	X	
2	SCREW TAPTITE M3 x 10, FH+	6003-000196	1	X	
3	SCREW MACHINE M3 x 6	6001-000131	2	X	
4	THERMISTOR-FUSER	JC14-00001A	1	O	
5	ELECTRODE FU R	JC71-00006A	1	X	
6	ELECTRODE FU M	JC71-00007A	1	X	
7	ELECTRODE FU L	JC71-00005A	1	X	
8	THERMOSTAT	4712-000001	1	O	
9	BRKT GEAR FUSER	JC72-00504A	1	X	
10	GEAR-IDLE 25	JC66-00030A	1	X	
11	GEAR-IDLE 15	JC66-00029A	1	X	
12	RING-CS	6044-000001	2	X	
13	COVER FUSER	JC72-00377A	1	X	
14	ROLLER EXIT_F/UP	JC72-00378A	3	X	
15	EXIT_F/UP (SPRING)	JC70-00099A	3	X	
16	SPRING-CLAW	JC61-70922A	4	X	
17	GUIDE-CLAW	JC72-00376A	4	X	
18	LAMP-HALOGEN	4713-001135	1	O	110V
18	LAMP-HALOGEN	4713-001136	1	O	220V
19	ROLLER-HEAT	JC71-20901A	1	O	
20	ROLLER PRESSORE	JC75-10956A	1	O	
21	FRAME FUSER	JC70-00092A	1	X	
22	GEAR FUSER, Z32	JC66-40926A	1	X	
23	BUSHING HR-L	JC72-41076A	1	X	
24	BUSHING HR-R	JC72-00381A	1	X	
25	SPRING-BEARING PR	JC61-00042A	2	X	
26	BUSHING PR	JC72-41078A	2	X	
27	GUIDE REAR	JC72-00379A	1	X	
28	SHAFT EXIT_F/UP	JC72-00383A	1	X	
29	BUSHING_TX	JC72-00382A	3	X	
30	GEAR-EXIT	JC66-40209A	1	X	
31	RUBBER EXIT	JC73-40909A	3	X	
32	RUBBER EXIT F/UP	JC73-00040A	1	X	
33	ACTUATOR EXIT	JC72-00385A	1	X	
34	SPRING-ACTUATOR	JC61-00050A	1	X	
35	HOLDER BRUSH	JC72-00551A	1	X	
36	BRUSH ANTISTATIC	JC75-00095A	1	X	
37	HOLDER SHAFT	JC72-00537A	1	X	
38	SEREW TAPTITE M3X6,BH+	6003-000115	4	X	

O: Service available X: Service not available

5-6 Rack-MPF Exploded View



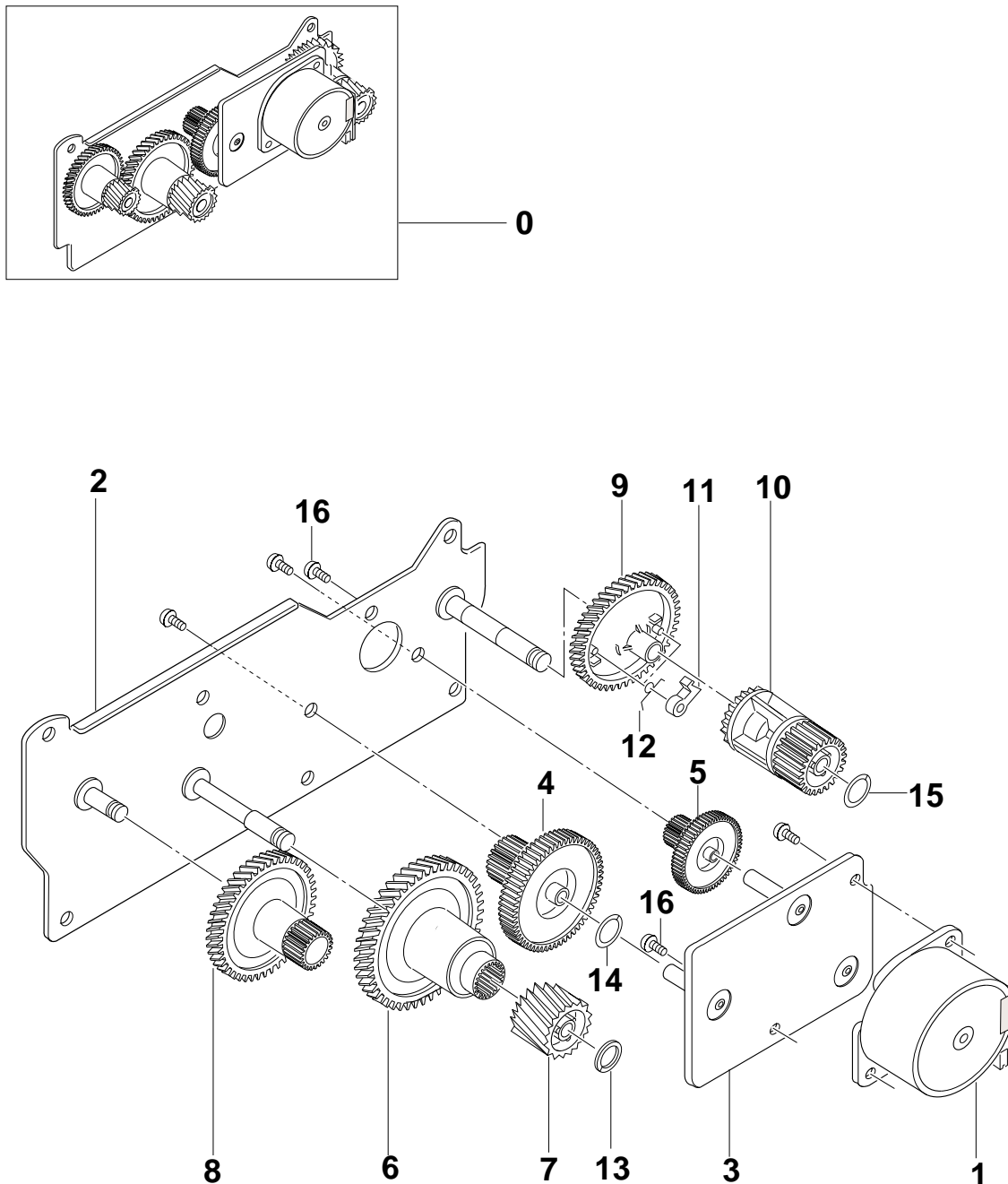
Rack-MPF Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA HOU-MPF	JC96-01650A	1	O	
1	PHOTO-INTERRUPTER	0604-001095	1	O	
2	SCREW-TAPTITE	6003-000125	2	O	
3	WASHER-PLAIN	6031-000021	1	X	
4	SOLENOID	JC33-00003A	1	X	
5	CBF-HARNESS-MP_EMPTY	JC39-00079A	1	X	
6	SPRING KNOCK UP	JC61-70913A	1	X	
7	SPRING-PICK UP, MP	JC61-00041A	1	X	
8	BRACKET_MP	JC70-00083A	1	X	
9	PMO-PLT KNOCK_UP, MP	JC72-00360A	1	X	
10	ICT-SHAFT_P/U, MP	JC70-00096A	1	X	
11	PMO-GEAR P/U MP	JC72-00351A	1	X	
12	PMO-CAM PICK UP MP	JC72-00345A	1	X	
13	PMO-FRAME_MP	JC72-00352A	1	X	
14	PMO-HOLDER_P/U,MP	JC72-00346A	1	X	
15	PMO-HOUSING_P/U, MP	JC72-41028A	1	X	
16	PMO-BEARING-PICK UP	JC66-10202A	2	X	
17	RMO-RUBBER_P/U, MP	JC73-10907A	1	X	
18	PMO-IDLE PICK UP, MP	JC72-41027A	2	X	
19	RPR-PAD KNOCKUP, MP	JC74-00011A	1	X	
20	RCR-FRICTION PAD 1 MP	JC73-00050A	1	X	
21	RCR-FRICTION PAD 2 MP	JC73-00050B	1	X	
22	PMO-RING KNOCK UP MP	JC72-00374A	1	X	
23	SCREW TAPTITE	6003-000196	2	X	
24	PMO-ADJUST END MP	JC72-41355A	1	X	
25	RING-E	6044-000149	1	X	
26	RING-CS	6044-000001	1	X	

O: Service available X: Service not available

5-7 Drive Exploded View



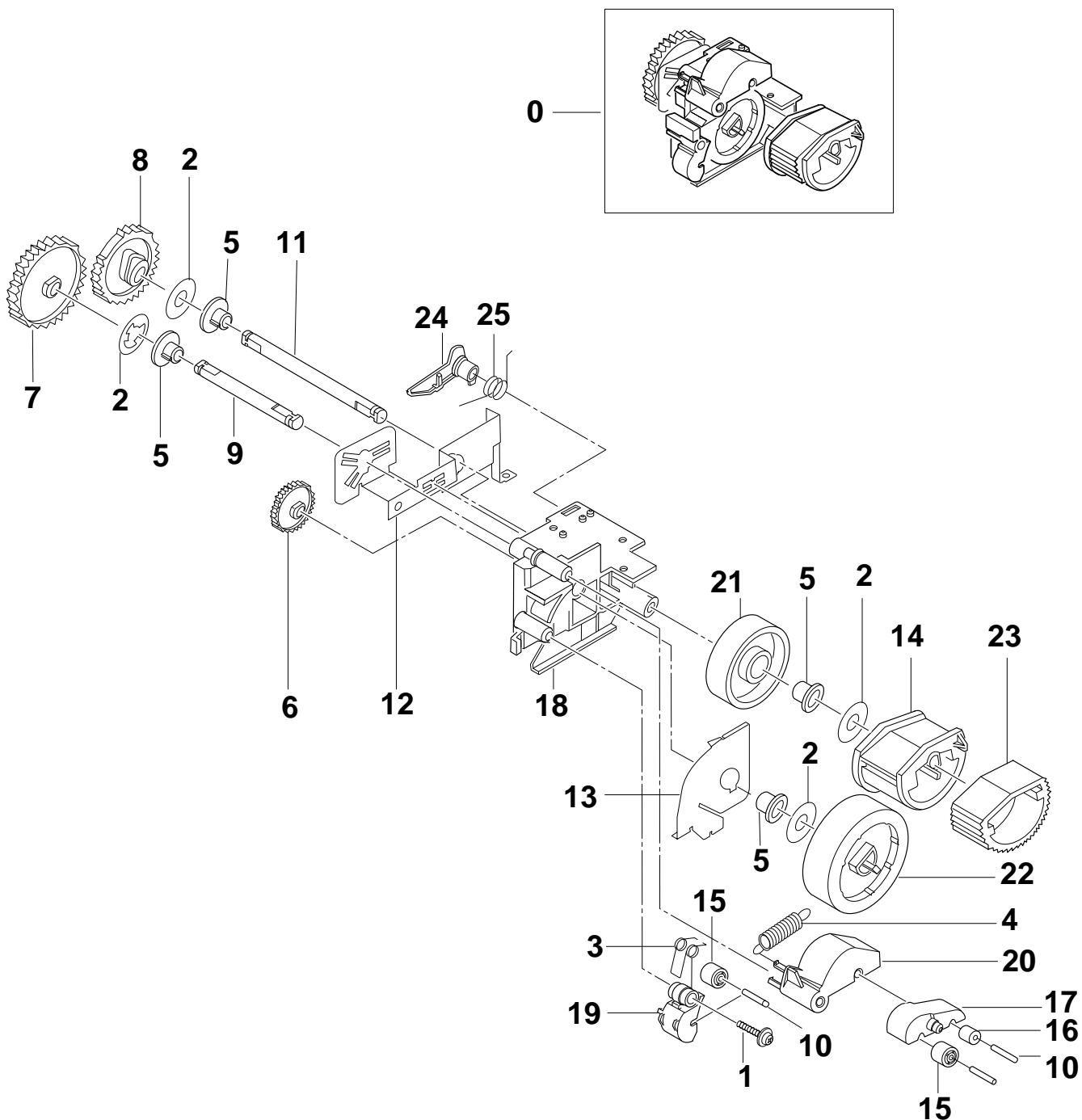
Drive Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	ELA UNIT-MOTOR	JC96-01656A	1	O	
1	MOTOR-STEP	JC31-00002A	1	O	
2	IPR-BRKT GEAR	JC70-00090A	1	X	
3	IPR-BRKT MOTOR	JC70-00089A	1	X	
4	GEAR-RDCN 145-70	JC66-00024A	1	X	
5	GEAR-RDCN 90-24	JC66-00027A	1	X	
6	GEAR-OPC DRV 135	JC66-00025A	1	X	
7	GEAR-OPC DRIVE2	JC66-00036A	1	X	
8	GEAR-FEED DRV	JC66-00026A	1	X	
9	GEAR-CLUTCH 56	JC66-00028A	1	X	
10	GEAR-FUSER DRV23	JC66-00003A	1	X	
11	PMO-CLUTCH LEVER	JC72-00034A	2	X	
12	SPRING-CLUTCH	JC61-00004A	2	X	
13	WASHER-PLAIN	6031-000004	1	X	
14	MPR-POLYWASHER 8	JC74-00006A	1	X	
15	WASHER-PLAIN	6031-000023	1	X	
16	SCREW-MACHINE	6001-000131	5	X	

O: Service available X: Service not available

5-8 Pick-Up Exploded View



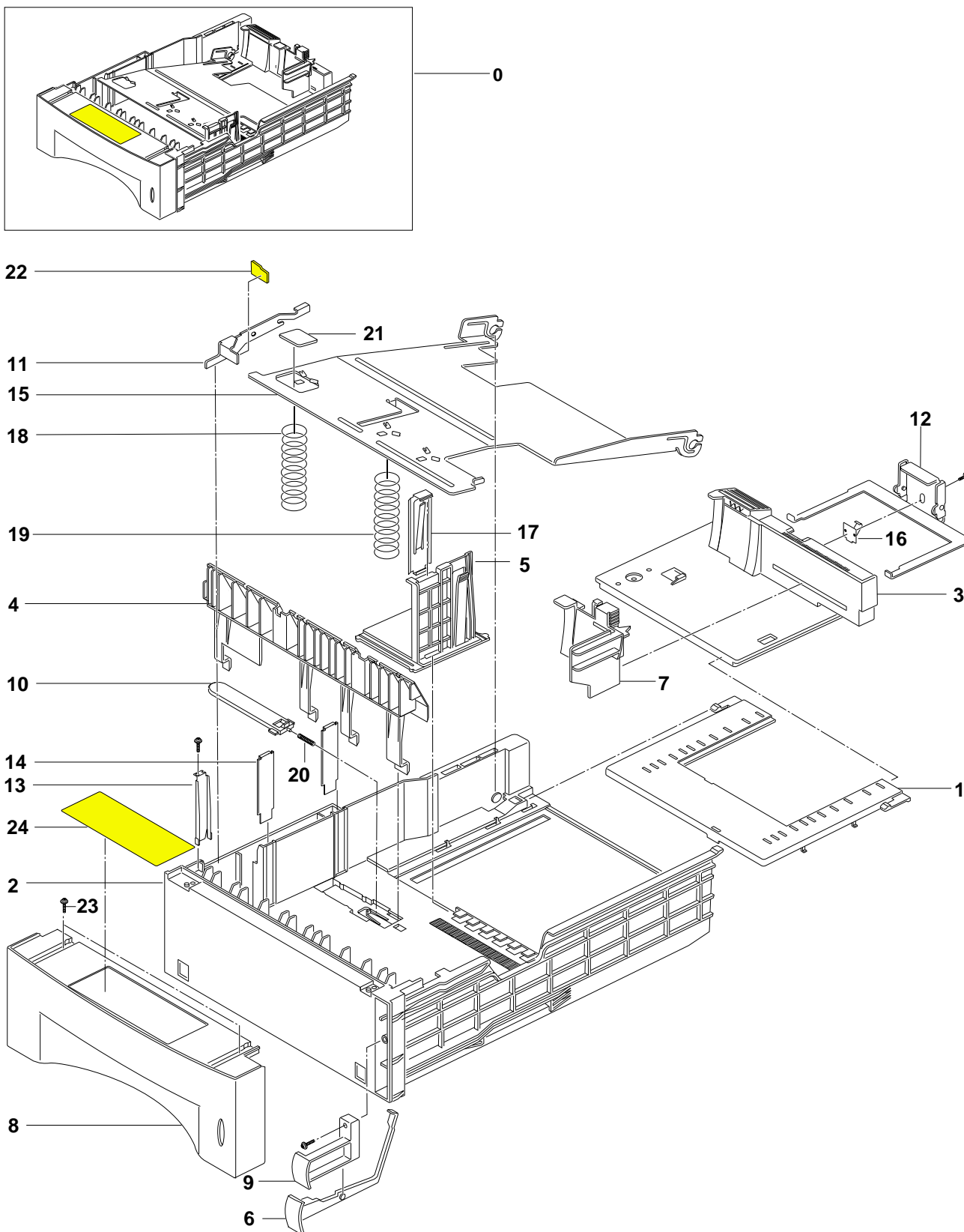
Pick-Up Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	MEA RACK-FEEDER	JC97-01324A	1	O	
1	SCREW-TAPTITE	6003-000002	1	X	
2	WASHER-PLAIN	6031-000021	4	X	
3	SPRING-FEED(1)	JC61-70941A	1	X	
4	SPRING-FEED(2)	JC61-70942A	1	X	
5	BEARING-PICK UP	JC66-10202A	4	X	
6	GEAR-P/UP DRIVE	JC66-40219A	1	X	
7	GEAR-FEED	JC66-40375A	1	X	
8	GEAR-PICK UP(12)	JC66-40958A	1	X	
9	IPR-SHAFT FEED	JC70-10229A	1	X	
10	IPR-SHAFT FEED IDLER	JC70-10230A	3	X	
11	IPR-SHAFT PICK UP	JC70-10231A	1	X	
12	GROUND_FEED	JC70-00097A	1	X	
13	IPR-GUIDE_FEED	JC70-10992A	1	X	
14	PMO-HOUSING P/UP	JC72-40252A	1	X	
15	PMO-ROLLER FEED L	JC72-40261A	2	X	
16	PMO-ROLLER FEED S	JC72-40262A	1	X	
17	PMO-SUB HOLDER FEED	JC72-40266A	1	X	
18	PMO-FRAME_FEED	JC72-00341A	1	X	
19	PMO-HOLDER FEED(1)	JC72-41184A	1	X	
20	PMO-HOLDER FEED(2)	JC72-41185A	1	X	
21	PMO-IDLE PICK_UP	JC72-00344A	1	X	
22	PMO-ROLL_FEED, DRV 12	JC72-41295A	1	X	
23	RMO-RUBBER PICK_UP	JC73-40907A	1	X	
24	RMO-LEVER PICK_UP	JC72-41339A	1	X	
25	SPRING PICK UP(12)	JC61-70966A	1	X	
26	RING-CS	6044-000001	1	X	

O: Service available X: Service not available

5-9 Cassette Exploded View



Cassette Parts Lists

SA. : Service Available

Location No.	Description	SEC. Code	Q'ty	SA	Remark
0	MEA RACK-FEEDER CST (500)	JC97-01323A	1	O	
1	PMO-COVER GUIDE EXT	JC72-40936A	1	O	
2	PMO-FRAME CASSETTE	JC72-00361A	1	O	
3	PMO-GUIDE EXT CST	JC72-00362A	1	O	
4	PMO-GUIDE PAPER	JC72-00372A	1	O	
5	PMO-GUIDE SIDE CST	JC72-00363A	1	O	
6	PMO-INDICATOR PAPER	JC72-00407A	1	O	
7	PMO-SIDE GUIDE EXT	JC72-40970A	1	O	
8	PMO-SUB GUIDE CAST	JC72-00364A	1	O	
9	PMO-HOLDER INDICATOR	JC72-41388A	1	O	
10	PMO-LOCKER PLATE	JC72-41210A	1	O	
11	IPR-FINGER	JC70-10213A	1	X	
12	IPR-GUIDE EXT LOCK	JC70-00084A	1	O	
13	IPR-GUIDE PAPER SCF	JC70-10922A	1	O	
14	IPR-GUIDE PLT PAPER	JC70-10923A	2	O	
15	IPR-PLATE KNOCK UP	JC70-00085A	1	O	
16	IPR-PLATE SPR LOCK	JC70-10926A	1	O	
17	IPR-SPR PLT G/SIDE	JC70-10929A	1	O	
18	SPRING PLATE K/UP 1	JC61-00039A	1	O	
19	SPRING PLATE K/UP 2	JC61-00039B	1	O	
20	SPRING LOCKER PLATE	JG61-70531A	1	O	
22	RCR-PAD FINGER	JC73-00051A	1	O	
23	SCREW TAPTITE M3 x 10 NI	6003-0000001	7	O	
24	LABEL(R)-CASSETTE	JC68-00412A	1	O	

O: Service available X: Service not available

MEMO

6. Electrical Parts Lists

6-1 Main PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01219A		1	PBA MAIN CTRL
0105-001032	TEST PAPER	2	PAPER-ART "75g,W210,-,WHITE,HANSOI,L297"
0404-000112	"D2,D6"	2	DIODE-SCHOTTKY "RB420D,25V,100mA,SOT-23,TP"
0407-000101	"D1,D3,D4,D5,D7,D8"	6	DIODE-ARRAY "DA204K,20V,100mA,C2-3,SOT-23,T"
0801-001072	U8	1	IC-CMOS LOGIC "74ACT32,OR GATE,SOP,14P,150MIL"
0803-000118	U12	1	IC-TTL "74F14,INVERTER,SOP,14P,150MIL,"
0803-000275	U6	1	IC-TTL "74F32,OR GATE,SOP,14P,150MIL,Q"
0803-000468	"U2,U10,U20"	3	IC-TTL "74LS273,D FLIP-FLOP,SOP,20P,30"
0803-001393	U19	1	IC-TTL "7407,BUFFER/DRIVER,SOP,14P,150"
0803-003058	U24	1	IC-TTL "74F1071,ESD,SOP,20P,-,TP,PLA"
0904-001319	U26	1	IC-USC "USB9602-28M,8BIT,SOP,28P,300MIL, 48MHZ,ST,-,PLASTIC,3.3V,-,0TO+70C,-,-,-,-"
1006-000243	"U1,U7"	2	IC-LINE TRANSCEIVER "74ACT245,SOP,20P,-,OCTAL,ST,PL"
1103-000133	U11	1	IC-EEPROM "93C66,256x16BIT,SOP,8P,150MIL,"
1105-001213	"U3,U9"	2	IC-DRAM "416C1204,1Mx16BIT,SOJ,42P,400M"
1107-001121	"U32,U33"	2	IC-FLASH MEMORY"29F800,1Mx8/512Kx16Bit,TSOP,48P,787MIL, 70nS,5V,10%,PLASTIC,0to+70C,100uA,CMOS,ST"
1203-000496	U14	1	IC-VOL SUPERVISORY "7705,SOP,8P,150MIL,PLASTIC,20V"
1203-001026	"U15,U16"	2	IC-POSI.FIXED REG. "33269,DPAK,3P,265MIL, PLASTIC,3.37/3.33V,-,-40TO+150C,800MA,-,ST"
2007-000029	"R136,R138,R152"	3	R-CHIP "00HM,5%,1/10W,DA,TP,2012"
2007-000029	"R3,R4,R24,R26,R30,R37,R96"	7	R-CHIP "00HM,5%,1/10W,DA,TP,2012"
2007-000221	R59	1	R-CHIP "1.2KOHM,5%,1/10W,DA,TP,2012"
2007-000241	R124	1	R-CHIP "1.5KOHM,5%,1/10W,DA,TP,2012"
2007-000290	"R28,R32,R76,R141,R143"	5	R-CHIP "100OHM,5%,1/10W,DA,TP,2012"
2007-000300	"R1,R5,R7,R8,R48,R49,R52,R60,R63,R64"	10	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000300	"R75,R146,R153"	3	R-CHIP "10KOHM,5%,1/10W,DA,TP,2012"
2007-000308	"R40,R50,R51,R61,R66,R71,R74,R120"	8	R-CHIP "10OHM,5%,1/10W,DA,TP,2012"
2007-000312	R111	1	R-CHIP "10OHM,5%,1/8W,DA,TP,3216"
2007-000409	R144	1	R-CHIP "15KOHM,5%,1/10W,DA,TP,2012"
2007-000449	"R12,R147,R151"	3	R-CHIP "180OHM,5%,1/10W,DA,TP,2012"
2007-000468	R132	1	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R41,R56,R78,R79,R81,R83,R84,R86,R87,R89"	10	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000468	"R93,R95,R100,R104,R105,R109,R115,R119"	8	R-CHIP "1KOHM,5%,1/10W,DA,TP,2012"
2007-000493	"R90,R97"	2	R-CHIP "2.2KOHM,5%,1/10W,DA,TP,2012"
2007-000551	"R112,R121"	2	R-CHIP "20OHM,5%,1/10W,DA,TP,2012"
2007-000766	R77	1	R-CHIP "330OHM,5%,1/10W,DA,TP,2012"
2007-000774	"R6,R135"	2	R-CHIP "33KOHM,5%,1/10W,DA,TP,2012"
2007-000781	"R108,R114,R118"	3	R-CHIP "33OHM,5%,1/10W,DA,TP,2012"
2007-000781	"R19,R20,R21,R22,R23,R25,R27,R31,R34,R38"	10	R-CHIP "33OHM,5%,1/10W,DA,TP,2012"
2007-000781	"R2,R9,R10,R11,R13,R14,R15,R16,R17,R18"	10	R-CHIP "33OHM,5%,1/10W,DA,TP,2012"

Main PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION	
2007-000781	"R69,R70,R82,R88,R94,R99,R103,R106"	8	R-CHIP	"33OHM,5%,1/10W,DA,TP,2012"
2007-000872	R134	1	R-CHIP	"4.7KOHM,5%,1/10W,DA,TP,2012"
2007-000931	"R47,R92"	2	R-CHIP	"470OHM,5%,1/10W,DA,TP,2012"
2007-000964	"R113,R117,R122,R126,R129,R130,R131"	7	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-000964	R145	1	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-000964	"R46,R55,R58,R65,R67,R72,R98,R102,R107"	9	R-CHIP	"5.1KOHM,5%,1/10W,DA,TP,2012"
2007-001133	"R29,R33,R35,R36,R39,R42,R43,R44,R45,R54"	10	R-CHIP	"68OHM,5%,1/10W,DA,TP,2012"
2007-001133	"R57,R68,R80,R110"	4	R-CHIP	"68OHM,5%,1/10W,DA,TP,2012"
2007-001216	R91	1	R-CHIP	"82OHM,5%,1/10W,DA,TP,2012"
2007-007961	R142	1	R-CHIP	"1ohm,1%,1W,DA,TP,6432"
2011-001094	"RA1~RA10"	10	R-NETWORK	"39ohm,5%,63mW,L,CHIP,8P,TP"
2011-001094	"RA11,RA12,RA13,RA14,RA15,RA16,RA17"	7	R-NETWORK	"39ohm,5%,63mW,L,CHIP,8P,TP"
2203-000192	"C104,C106,C111,C121,C136,C140,C147"	7	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C172,C173,C176,C177,C178,C179"	6	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C19,C23,C24,C26,C27,C28,C29,C30,C32,C41"	10	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C44,C47,C50,C51,C52,C56,C57,C58,C59,C60"	10	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C5,C6,C7,C9,C10,C11,C15,C16,C18"	9	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C62,C63,C64,C65,C67,C68,C69,C71,C72,C73"	10	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C77,C78,C79,C80,C84,C85,C86,C88,C89,C90"	10	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000192	"C92,C94,C95,C96,C97,C98,C99,C102,C103"	9	"C-CERAMIC,CHIP"	"100nF,+80-20%,50V,Y5V,TP,2012,"
2203-000239	"C13,C17,C20,C25,C74,C141,C174,C175"	8	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000239	"C145,C152,C156,C164,C165,C166,C167"	7	"C-CERAMIC,CHIP"	"0.1nF,5%,50V,NP0,TP,2012"
2203-000260	"C161,C162,C180,C181,C182,C183"	6	"C-CERAMIC,CHIP"	"10nF,10%,50V,X7R,TP,2012"
2203-000389	"C53,C117,C143"	3	"C-CERAMIC,CHIP"	"0.015nF,5%,50V,NP0,TP,2012"
2203-000455	"C160,C168,C169,C170,C171,C186"	6	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C187,C188,C189,C190,C191,C192,C193,C194"	8	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000455	"C4,C14,C31,C37,C40,C66,C83,C109,C151"	9	"C-CERAMIC,CHIP"	"1nF,5%,50V,NP0,TP,2012"
2203-000595	"C114,C120,C126,C130,C135,C138,C142,C146"	8	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-000595	"C127,C132"	2	"C-CERAMIC,CHIP"	"0.22nF,5%,50V,NP0,TP,2012"
2203-000634	"C115,C124,C131,C184"	4	"C-CERAMIC,CHIP"	"0.022nF,5%,50V,NP0,TP,2012"
2203-000634	"C93,C101"	2	"C-CERAMIC,CHIP"	"0.022nF,5%,50V,NP0,TP,2012"
2203-000784	"C8,C22,C163"	3	"C-CERAMIC,CHIP"	"0.33nF,5%,50V,NP0,TP,2012"
2203-000818	"C21,C33,C34,C35,C36,C38,C39,C43,C45,C46"	10	"C-CERAMIC,CHIP"	"0.033nF,5%,50V,NP0,TP,2012"
2203-000818	"C48,C49,C61,C139"	4	"C-CERAMIC,CHIP"	"0.033nF,5%,50V,NP0,TP,2012"
2203-000891	C76	1	"C-CERAMIC,CHIP"	"4.7nF,10%,50V,X7R,TP,2012"
2203-000938	"C113,C119,C125,C129,C134,C137,C185"	7	"C-CERAMIC,CHIP"	"0.47nF,5%,50V,NP0,TP,2012"
2203-001002	"C42,C70,C75,C81,C91,C110,C128"	7	"C-CERAMIC,CHIP"	"0.047nF,5%,50V,NP0,TP,2012"
2203-001132	C100	1	"C-CERAMIC,CHIP"	"0.68nF,5%,50V,NP0,TP,2012"
2203-001158	C55	1	"C-CERAMIC,CHIP"	"0.068nF,5%,50V,NP0,TP,2012"
2402-000168	C87	1	"C-AL,SMD"	"100uF,20%,16V,GP,TP,8.3x8.3x6.3mm"
2404-000128	"C1,C2,C82,C105,C122,C158"	6	"C-TA,CHIP"	"10uF,20%,16V,-,TP,6032,-"
2404-000468	"C12,C54,C107,C108,C123,C133,C153"	7	"C-TA,CHIP"	"33uF,20%,16V,GP,TP,7343,-"
2404-000468	C155	1	"C-TA,CHIP"	"33uF,20%,16V,GP,TP,7343,-"

Main PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
2804-001163	OSC3	1	OSCILLATOR-CLOCK"20MHz,50ppm,10TTL & CMOS,ST,5V"
2804-001278	OSC2	1	OSCILLATOR-CLOCK "48MHZ,100PPM, 10 TTL & CMOS,ST,5V,40mA"
2804-001348	OSC1	1	OSCILLATOR-CLOCK "45.032242MHz,100ppm,10TTL&CMOS,BK,5V,40mA"
2901-000229	"F1,F2,F5,F6,F7,F8,F9,F10"	8	FILTER-EMI SMD"50V,0.3A,-,22000pF,4.5x3.2x1.5mm,TP"
2901-000229	F11	1	FILTER-EMI SMD"50V,0.3A,-,22000pF,4.5x3.2x1.5mm,TP"
3301-000317	"L11,L12,L13"	3	CORE-FERRITE BEAD "AB,2x1.25x0.9mm,-,-"
3301-000317	"L2,L3,L4,L5,L6,L7,L8,L9,L10"	9	CORE-FERRITE BEAD "AB,2x1.25x0.9mm,-,-"
3702-000118	CN8	1	CONNECTOR-RIBBON "36P,FEMALE,ANGLE,AU"
3702-001121	CN4	1	CONNECTOR-RIBBON "60P,MALE,STRAIGHT,AUF"
3709-000177	"U4,U5"	2	CONNECTOR-CARD EDGE"72P,1.27mm,ANGLE,SN"
3711-002811	CN5	1	CONNECTOR-HEADER "BOX,10P,1R,2mm,STRAIGHT,SN"
3711-002812	CN6	1	CONNECTOR-HEADER "BOX,11P,1R,2mm,STRAIGHT,SN"
3711-002813	CN2	1	CONNECTOR-HEADER "BOX,12P,1R,2mm,STRAIGHT,SN"
3711-003205	CN9	1	CONNECTOR-HEADER "BOX,4P,1R,2.0mm,STRAIGHT,SN"
3711-003408	CN12	1	CONNECTOR-HEADER "BOX,2P,1R,2mm,STRAIGHT,SN"
3711-003409	CN13	1	CONNECTOR-HEADER "BOX,3P,1R,2mm,STRAIGHT,SN"
3711-003969	CN11	1	CONNECTOR-HEADER "BOX,2P,1R,2.5mm,STRAIGHT,SN"
3711-003981	CN3	1	CONNECTOR-HEADER "BOX,28P,2R,2mm,STRAIGHT,SN"
3722-001101	CN7	1	JACK-USB "4P/2C,8.38mm,AU,IVR,#22-28"
4701-001020	"U22,U23"	2	FREQ-ATTENUATOR "5-80MHz,15dB,-,0.03W"
JC11-10511A	U25	1	IC MASK ROM-LOW "ML-165,KM23C16005BG,SOP,44P,60"
JC11-10512A	U21	1	IC MASK ROM-HIGH "ML-165,KM23C16005BG,SOP,44P,60"
JC13-00006A	U17	1	IC ASIC- SPGPE+ "ML-6060,KS32C61200,QFP,240P,36.4x4"
JC41-00036A	PCB-HAWK CONTROLLER	1	PCB-CTRL_6040A "ML-6040A,FR-4,4LAYER,1.6T,145X180MM"

6-2 Engine PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01190B		1	PBA MAIN-ENGINE
0401-000005	"D1~D3,D5~D9,D506"	9	DIODE-SWITCHING "1N4148,100V,200MA,DO-35,TP"
0402-000012	D502	1	DIODE-RECTIFIER "UF4007,1KV,1A,DO-41,TP"
0402-000104	BD502	1	DIODE-BRIDGE "D3SBA60,600V,4A,-,ST"
0402-000129	"D4,D10,D505"	3	DIODE-RECTIFIER "1N4003,200V,1A,DO-41,TP"
0402-000314	D503	1	DIODE-RECTIFIER "D10SC4M,40V,10A,ITO-220"
0402-000351	D501	1	DIODE-RECTIFIER "1N4937,600V,1A,DO-41,TP"
0501-000010	"Q1,Q2,Q3,Q7,Q9"	5	TR-SMALL SIGNAL "KSC1008,NPN,800mW,TO-92,TP,120"
0604-000142	U503	1	PHOTO-COUPLER "TR,-,200mW,DIP-4,ST"
0604-001033	"U4,U554,U555"	3	PHOTO-INTERRUPTER"TR,-,150mW,DIP-4,ST"
0604-001207	U501	1	PHOTO-COUPLER "TRIAC,-,-,DIP-6,ST"
0801-001262	U5	1	IC-CMOS LOGIC "74HC4060,BINARY COUNTER,DIP,16"
1003-001291	U2	1	IC-MOTOR DRIVER "A2918SWH,DIP,18P,1220MIL,-,+1.5A,ST, PLASTIC,-,-20to+85C,20W,45V,-"
1202-000103	U3	1	IC-VOLTAGE COMP. "393,DIP,8P,300MIL,DUAL,36V,CMO"
1203-000002	U504	1	IC-POSI.ADJUST REG. "431,TO-92,3P,-,PLASTIC,2.44/2."
1404-000167	TH501	1	THERMISTOR-NTC "5ohm,10%,3150K,18.7mW/C,TP"
1405-000147	TNR502	1	VARISTOR "470V,4500A,17x12mm,BK"
2001-000021	R512	1	R-CARBON "27OHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000045	R63	1	R-CARBON "1.8KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000071	R507	1	R-CARBON "22KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000105	"R16,R528"	2	R-CARBON "1.5KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000118	R503	1	R-CARBON(S) "180OHM,5%,1/2W,AA,TP,2.4X6.4MM"
2001-000119	R516	1	R-CARBON "680OHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000281	"R2,R3,R7,R8,R9,R20, R21,R54,R58,R61"	10	R-CARBON "100OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000281	R527	1	R-CARBON "100OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000290	R49	1	R-CARBON "10KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000362	"R29,R31,R51,R525"	4	R-CARBON "150OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000429	"R25,R45,R50,R56"	4	R-CARBON "1KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000435	R60	1	R-CARBON "1MOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000525	R504	1	R-CARBON "22OHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000537	"R46,R47"	2	R-CARBON "24KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000588	R514	1	R-CARBON "3.3KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-000613	R65	1	R-CARBON "3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000793	R68	1	R-CARBON "47OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000812	"R5,R10,R11,R12,R22, R64,R67,R520,R529"	9	R-CARBON "5.6KOHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000832	"R13,R32,R521"	3	R-CARBON "510OHM,5%,1/8W,AA,TP,1.8X3.2MM"
2001-000876	R57	1	R-CARBON "6.2KOHM,5%,1/4W,AA,TP,2.4X6.4MM"
2001-001070	R502	1	R-CARBON(S) "120OHM,5%,1/2W,AA,TP,2.4X6.4MM"
2001-001150	"R501,R505"	2	R-CARBON(S) "470KOHM,5%,1/2W,AA,TP,2.4X6.4MM"
2003-000455	R513	1	R-METAL OXIDE(S) "100ohm,5%,2W,AA,TP,4x12mm"

Engine PBA

SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
2003-000706	R511	1	R-METAL OXIDE(S) "47Kohm,5%,2W,AA,TP,4.3x12mm"
2003-000767	R519	1	R-METAL OXIDE(S) "680ohm,5%,2W,AA,TP,4x12mm"
2003-002123	"R509,R510"	2	R-METAL OXIDE(S) "100Kohm,5%,1W,AA,TP,2.5x6.5mm"
2004-000345	"R4,R28,R30,R52,R526"	5	R-METAL "15Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-000432	R517	1	R-METAL "1Kohm,1%,1/4W,AA,TP,2.4x6.4mm"
2004-000481	R515	1	R-METAL "2.4Kohm,1%,1/4W,AA,TP,2.4x6.4mm"
2004-000699	"R40,R69"	2	R-METAL "3.3Kohm,1%,1/8W,AA,TP,1.8x3.2mm"
2004-004006	R518	1	R-METAL "2.3Kohm,1%,1/4W,AA,TP,2.4x6.4mm"
2005-001058	"R44,R48"	2	R-WIRE WOUND "0.39ohm,1%,1W,AA,TP,4.3x12mm"
2005-001114	R506	1	"R-WIRE WOUND,NON" "0.44ohm,5%,2W,AA,TP,3.8x11mm"
2201-000017	"C20,C25,C27,C32"	4	"C-CERAMIC,DISC" "1nF,10%,50V,Y5P,TP,5x3.5,5"
2201-000019	"C24,C502"	2	"C-CERAMIC,DISC" "10nF,+80-20%,500V,Y5V,TP,13.5x4mm,5"
2201-000119	"C5,C12,C13,C23,C33, C508,C513,C519,C520"	9	"C-CERAMIC,DISC" "100nF,+80-20%,50V,Y5V,TP,8x3,5"
2201-000119	C523	1	"C-CERAMIC,DISC" "100nF,+80-20%,50V,Y5V,TP,8x3,5"
2201-000391	"C29,C30"	2	"C-CERAMIC,DISC" "0.022nF,5%,50V,SL,TP,5x3,5"
2201-000469	"C18,C19,C521,C522"	4	"C-CERAMIC,DISC" "0.33nF,10%,500V,Y5P,TP,5.5x3,5"
2201-002071	"C503,C504,C506"	3	"C-CERAMIC,DISC" "2.2nF,20%,400V,Y5U,TP,12x7,10"
2202-000121	C31	1	"C-CERAMIC,MLC-AXIAL" "100pF,10%,50V,Y5P,TP,1.9x3.5,-"
2301-000010	C516	1	"C-FILM,PEF" "100nF,5%,100V,TP,11.5x12.5mm,5"
2301-000323	"C501,C505"	2	"C-FILM,PEF" "220NF,20%,275V,TP,18X8.5X26MM,22.5"
2301-001340	C509	1	"C-FILM,MPPF" "10nF,10%,630V,TP,16x5.5x10.5mm,7.5"
2401-000183	"C517,C518"	2	C-AL "1000uF,20%,35V,WT,TP,12.5x25,5"
2401-000532	C507	1	C-AL "150uF,20%,400V,GP,BK,22x35,10"
2401-000603	C512	1	C-AL "1uF,20%,50V,GP,TP,5x11,5"
2401-000698	C515	1	C-AL "2200uF,20%,16V,WT,TP,12.5x25,5"
2401-001197	C510	1	C-AL "33uF,20%,50V,GP,TP,6.3x7,-"
2401-002144	C17	1	C-AL "47uF,20%,16V,GP,TP,5x11,5"
2401-002300	"C16,C28"	2	C-AL "47uF,20%,50V,GP,TP,6.3x11,5"
2401-002420	C514	1	C-AL "470uF,20%,16V,GP,TP,10x12,5mm"
2801-003885	OSC1	1	CRYSTAL-UNIT "6.81984MHz,30ppm,28-AAM,20pF,75ohm,TP"
3301-000344	"BD1,BD3,BD10"	3	CORE-FERRITE BEAD "ZZ,3.5x6.5mm,-,-"
3301-001015	"BD503,BD504"	2	CORE-FERRITE BEAD "AA,3.6x0.6x5mm,-,-"
3601-000002	F501	1	FUSE-AXIAL LEAD "250V,5A,SLOW-BLOW,GLASS,5.2x20mm"
3602-000001	"FC1,FC2"	2	FUSE-CLIP "-,-,30mohm"
3711-000028	CN3	1	CONNECTOR-HEADER "BOX,4P,1R,2mm,STRAIGHT,SN"
3711-000217	CN501	1	CONNECTOR-HEADER "1WALL,3P,1R,3.96mm,STRAIGHT,SN"
3711-000484	CN1	1	CONNECTOR-HEADER "3WALL,5P,1R,2mm,STRAIGHT,SN"
3711-002809	CN5	1	CONNECTOR-HEADER "BOX,8P,1R,2mm,STRAIGHT,SN"
3711-003359	CN14	1	CONNECTOR-HEADER "BOX,10P,1R,2.5mm,STRAIGHT,SN"
3711-003409	"CN6,CN504"	2	CONNECTOR-HEADER "BOX,3P,1R,2mm,STRAIGHT,SN"
3711-003968	CN503	1	CONNECTOR-HEADER "BOX,3P,1R,2.5mm,STRAIGHT,SN"
3711-003981	CN8	1	CONNECTOR-HEADER "BOX,28P,2R,2mm,STRAIGHT,SN"

Engine PBA

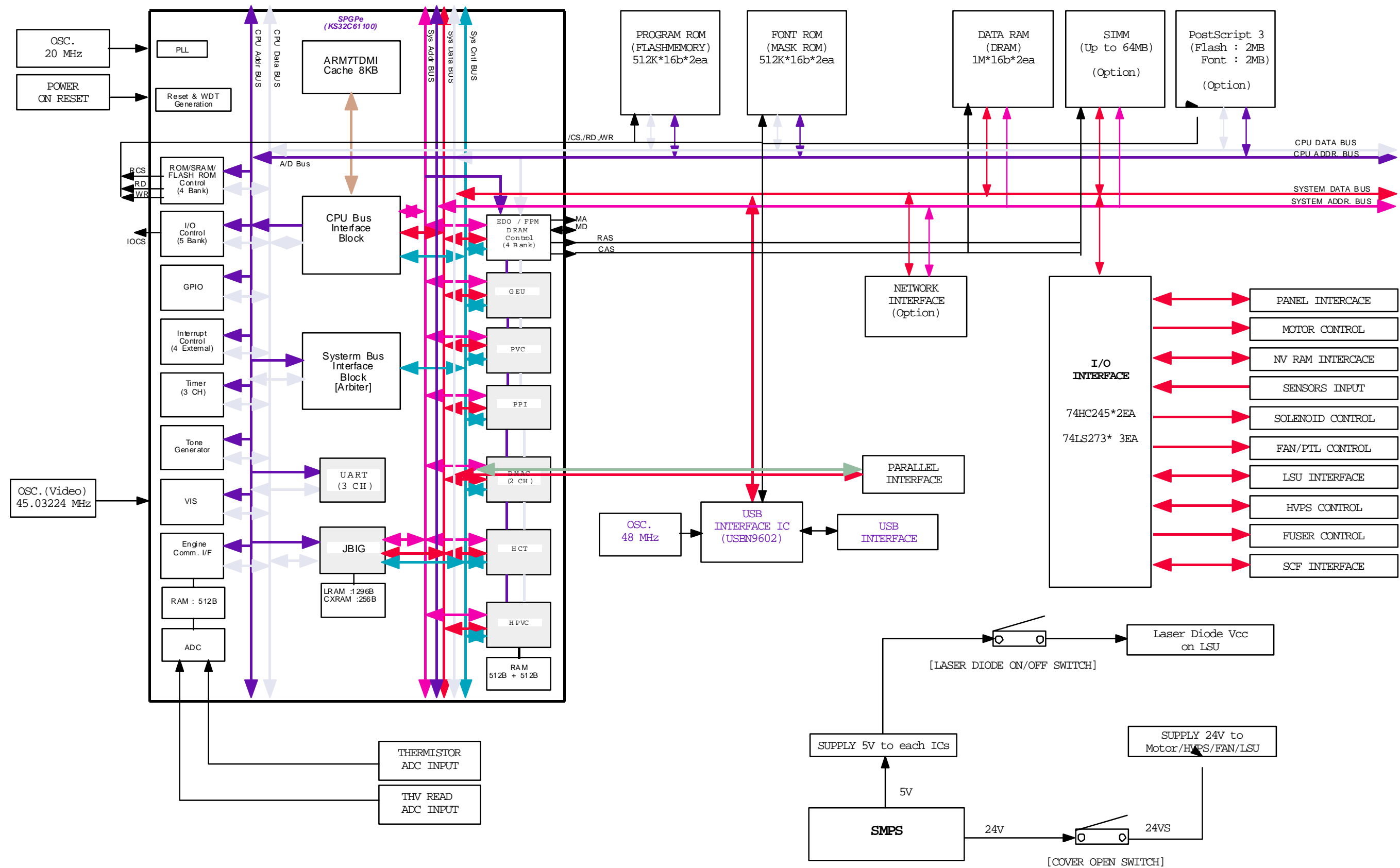
SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
3711-004443	CN502	1	CONNECTOR-HEADER "1WALL,2P,1R,7.92mm,STRAIGHT,SN"
JC26-00003A	T501	1	TRANS POWER-SW_V2"ML-5200A,220V,-"
JC27-00001A	LF501	1	COIL FILTER-SQ2828 "ML-5200A,18.0mH,0.20ohm,58T"
JC27-00002A	LF502	1	COIL FILTER-SQ2116 "ML-5200A,4.8mH,0.43ohm,45T"
JC27-60101A	L501	1	COIL FILTER- "-,300UH,-,-"
JC27-60101B	L503	1	COIL FILTER- "-,9UH,-,-"
JC27-60101C	L502	1	COIL FILTER- "-,6UH,-,-"
JC33-10501B	L553	1	SOLENOID-6000 "ML-6000,24VDC,72W,57,39X39X22,"
JC39-40511A	"BD501,BD505,R508"	3	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J3,J4,J17,J18,J22,J25,J26,J27,J28,J31"	10	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J41,J42,J43,J49,J54,J55,J67,J68,J69,J71"	10	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J501~J508,J564"	8	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J511,J512,J513,J522,J525,J526,J567,J569"	8	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J528,J529,J531,J532,J533,J535,J570,J572"	8	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J536,J538,J540,J541,J543,J544,J574"	7	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J545~J552"	8	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J553~J560"	8	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	J561	1	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J72,82,83,J85~J89,91,92"	10	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC39-40511A	"J93,J565,J575~J578"	6	CBF HARNESS- "ML-80,JUMPER,AWG22,52mm,SILVER"
JC41-00038A	HAWK ENGINE PCB	1	PCB-HAWK ENGINE "ML-6040A,FR-1,1LAYER,1.6T,246.5x213.5mm"
JC96-01679A	ASSY-HEAT_SINK	1	ELA UNIT-HEAT SINK "ML-6060,SEC,HEAT SINK ASSY,-,-,-"
0402-000304	D504	1	DIODE-RECTIFIER "STPR1020CF,200V,5A,TO-220,ST"
1203-001721	U502	1	IC-PWM CONTROLLER "STR-G6153T,T0-220,5P,140MIL,PLASTIC,-,1.5W NO HEATSINK,-20TO +120C,8A,-,ST"
1401-000108	THY501	1	THYRISTOR-TRIAC "100A,600V,-,5V/uS,TO-220AB"
6003-000119		3	SCREW-TAPTITE "BH,+,B,M3,L8,CBLACK,SWRCH18A"
JC62-00001A	HS502	1	HEAT SINK-FET "ML-6060,A6063,SILVER"
JC62-30908A	HS503	1	HEAT SINK-SMPS "ML-5000,AL,ANODIZING"
JF62-30201A	HS501	1	HEAT SINK "HVPS,SPCC,t1.0"

6-3 Others

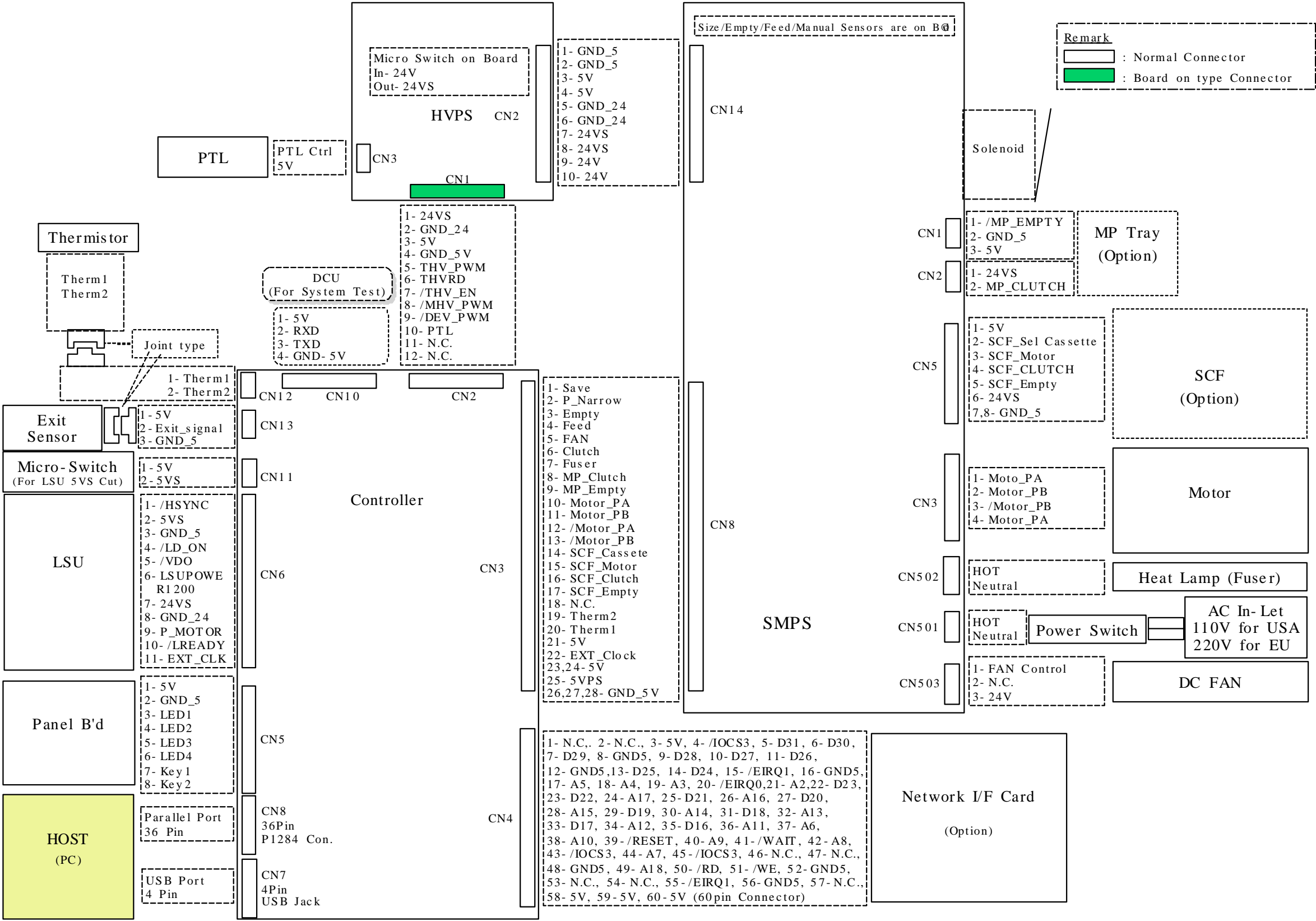
SEC CODE	LOCATION NO.	Q'ty	DESCRIPTION
JC92-01208B	PBA-PANEL 10P	1	PBA SUB-PANEL_II
0601-000161	"LED1,LED5"	2	LED "ROUND,GRN,5mm,563nm"
0601-000255	LED4	1	LED "ROUND,RED,5mm,700nm"
0601-000304	"LED2,LED3"	2	LED "ROUND,YEL,5mm,585nm"
2001-000111	"R1,R2,R3,R4,R5"	5	R-CARBON "150OHM,5%,1/4W,AA,TP,2.4X6.4MM"
2201-000119	C1	1	"C-CERAMIC,DISC" "100nF,+80-20%,50V,Y5V,TP,8x3,5"
3404-000155	"SW1,SW2,SW3"	3	SWITCH-TACT "12V,50mA,160gf,6x6x3.5mm,SPST"
JC39-00072A	HAWK PANEL HARN 10P	1	CBF HARNESS-HVPS_CONTROL "ML-6060,WIRE HARNESS,UL1061,50mm,BLK+RED,#26"
JC41-00042B	HAWK PANEL_II PCB	1	PCB-HAWK PANEL_II "ML-6060,FR-1,1LAYER,1.6T,107.5x40.1mm"
JC92-01234A	PBA-EXIT SENSOR	1	PBA SUB-EXIT SENSOR
0604-001033		1	PHOTO-INTERRUPTER "TR,-,150mW,DIP-4,ST"
2001-000362		1	R-CARBON "150OHM,5%,1/8W,AA,TP,1.8X3.2MM"
JC39-00071A	EXIT SENSOR HARN	1	CBF HARNESS-EXIT SENSOR "ML6060,WIRE HARNESS,UL1061,425mm,BK+RD+WH,#26"
JC41-00050A	PCB-EXIT SENSOR	1	PCB SUB-EXIT SENSOR "ML-6060,FR-1,1LAYER,1.6T,11.1x42.5mm"
JC92-01261A	PBA-FUSER SWITCH	1	PBA SUB-FUSER_SW
JC39-00077A	HARN-FUSER SWITCH 3P	1	CBF HARNESS-MP_CLUTCH "ML-6060,WIRE HARNESS,UL1061,150mm,BLK,#26"
JC41-00068A	PCB-FUSER SWITCH	1	PCB SUB-FUSER_SWITCH"ML-6060,FR-1,1LAYER,1.6T,19.5x22mm"
JC92-01235A	PBA-SENSOR DEVE	1	PBA SUB-SWITCH "ML-6060,SEC,USA/EU,-,-,-,"
3405-000125		1	SWITCH-MICRO "125V,5A,50gf,SPDT"
JC39-00083A	DEVE CHECK SENSOR HARN	1	CBF HARNESS-SWITCH_SENSOR "ML-6060,WIRE HARNESS,UL1061,150mm,BLK+RED,#26"
JC41-00051A	PCB-DEVE CHECK SENSOR	1	PCB SUB-SWITCH "ML-6060,FR-1,1LAYER,1.6T,8x21.7mm"

MEMO

7. Block Diagram



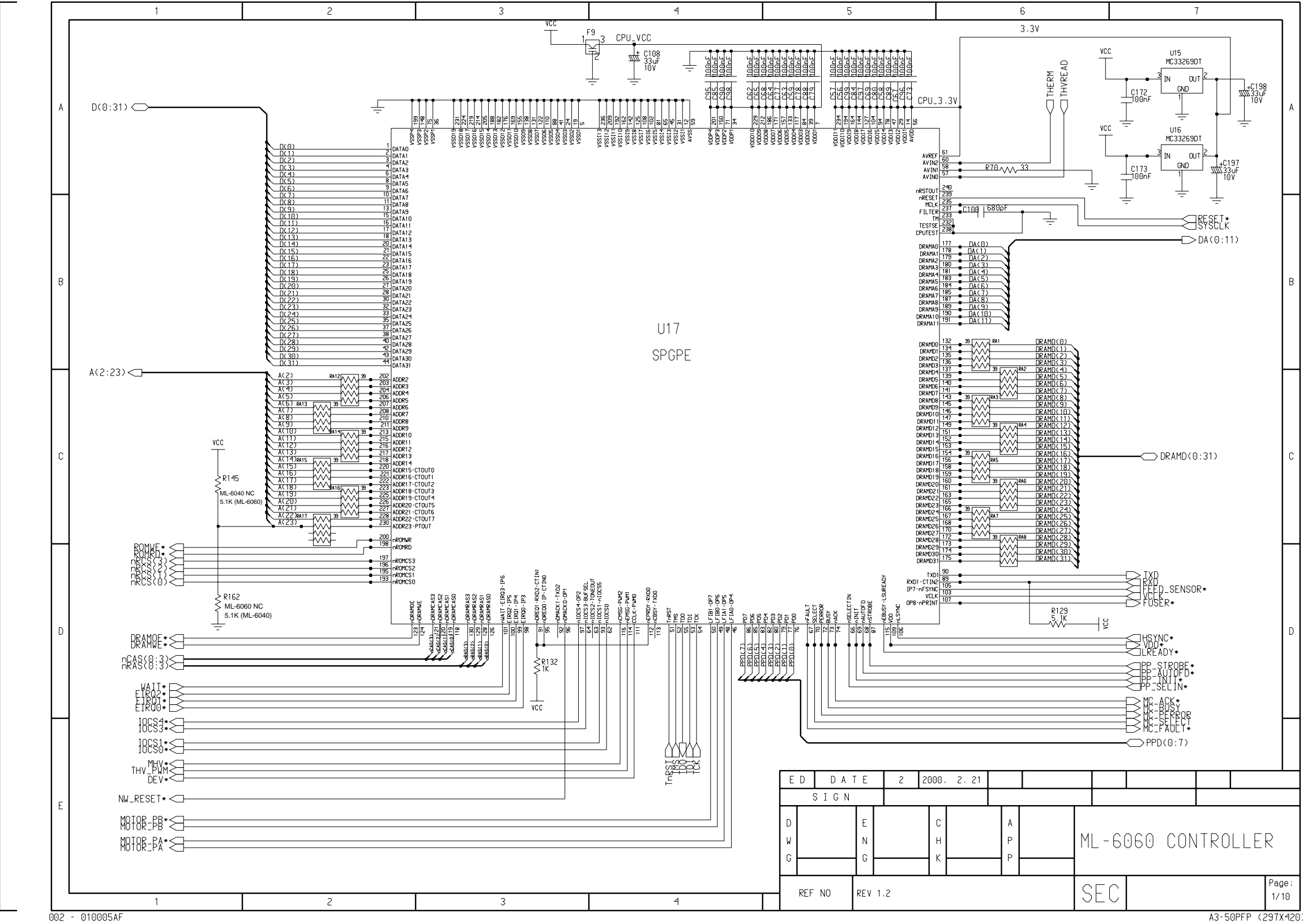
8. Connection Diagram

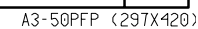


9. Schematic Diagrams

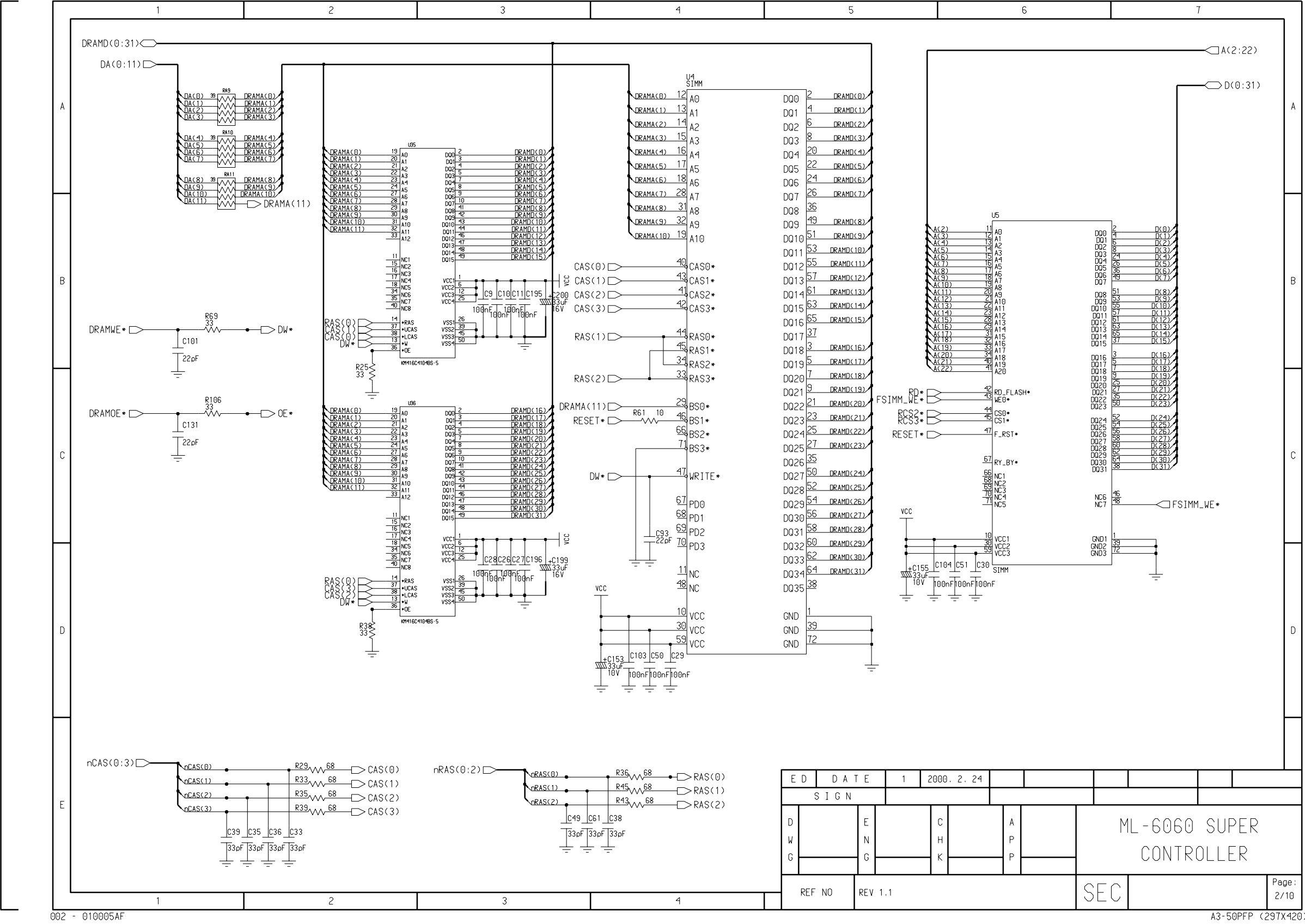
9-1 Main Circuit Diagram(1/10)

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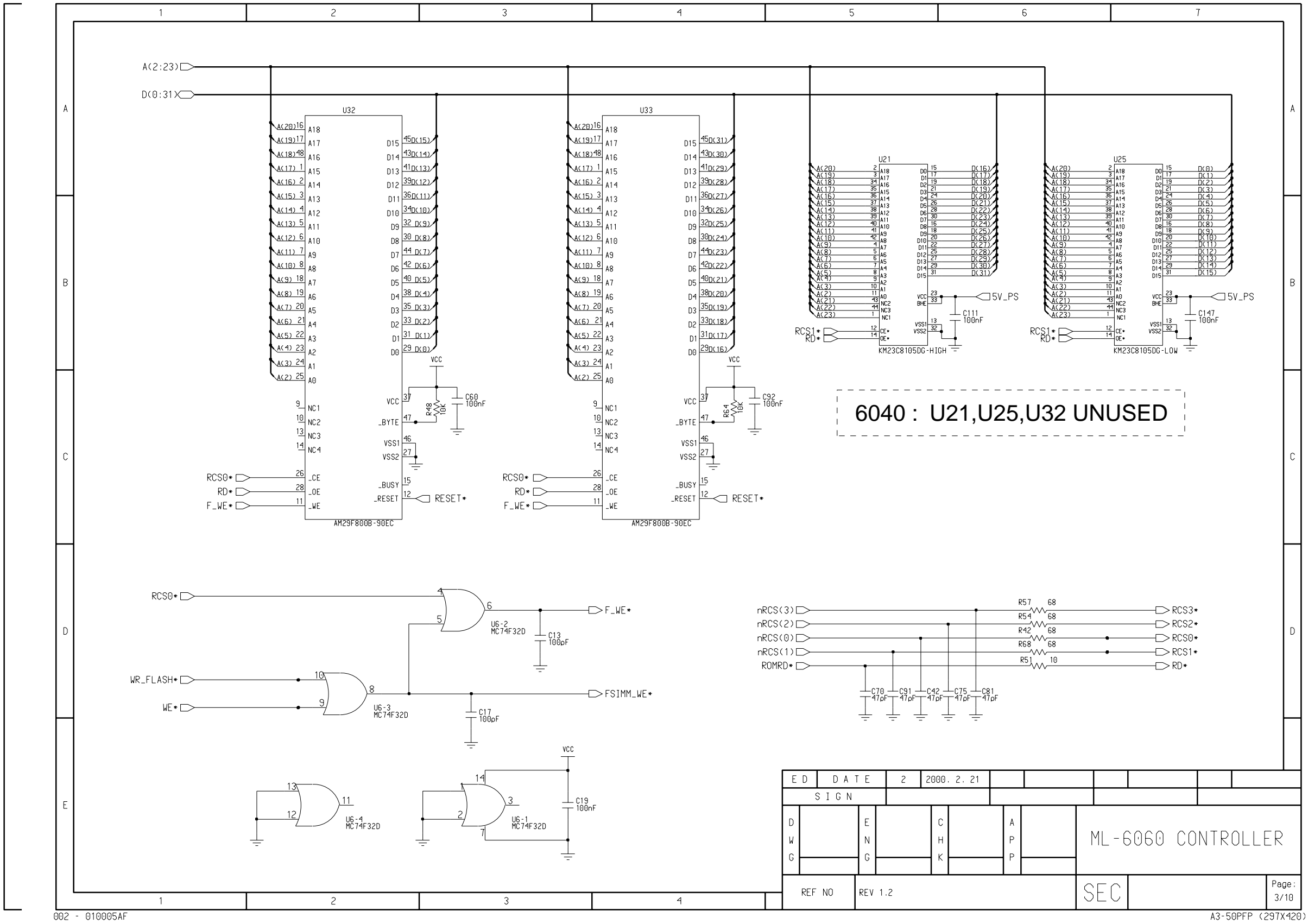




Main Circuit Diagram(2/10) : ML-6060N

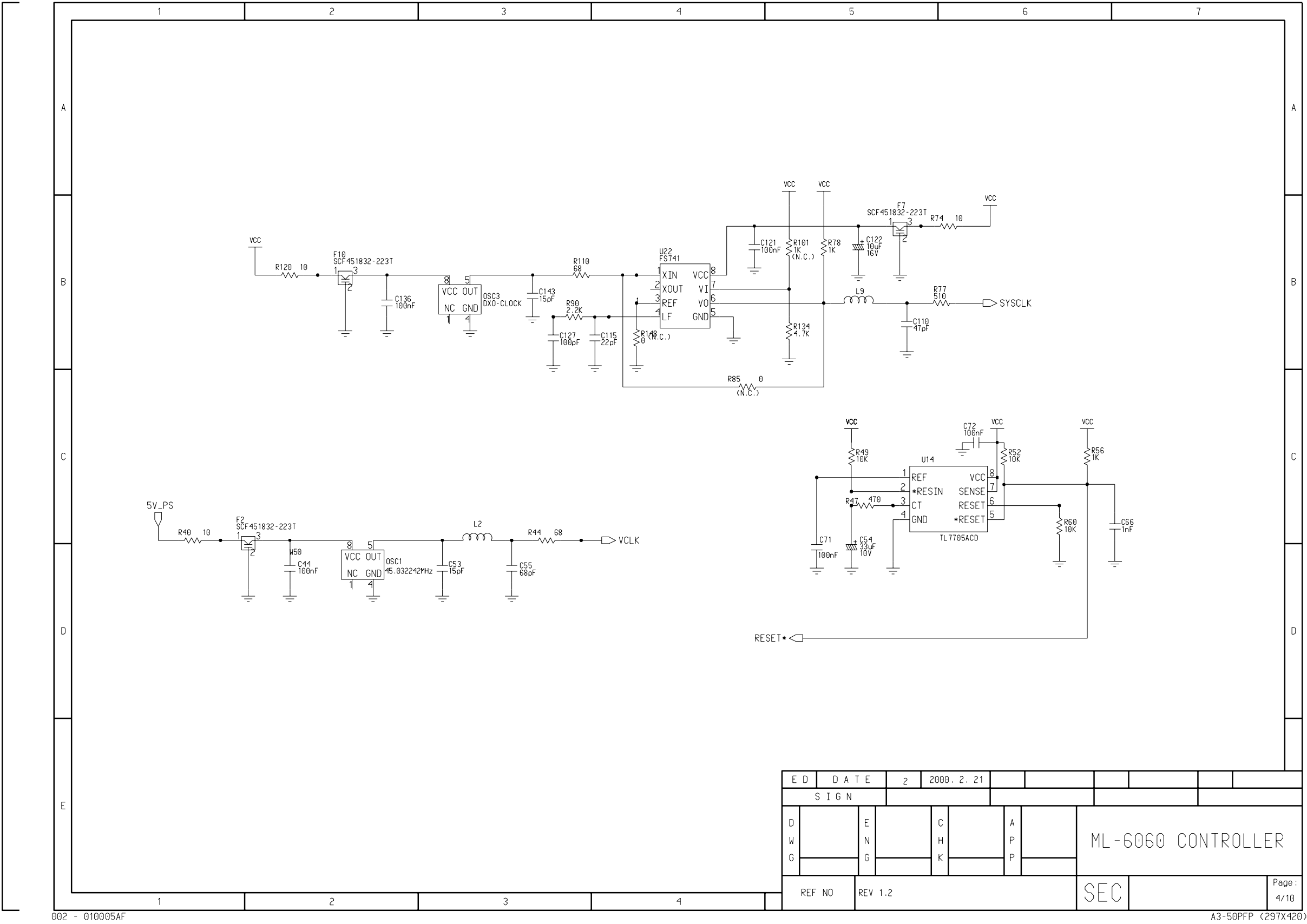


Main Circuit Diagram(3/10)



Main Circuit Diagram(4/10)

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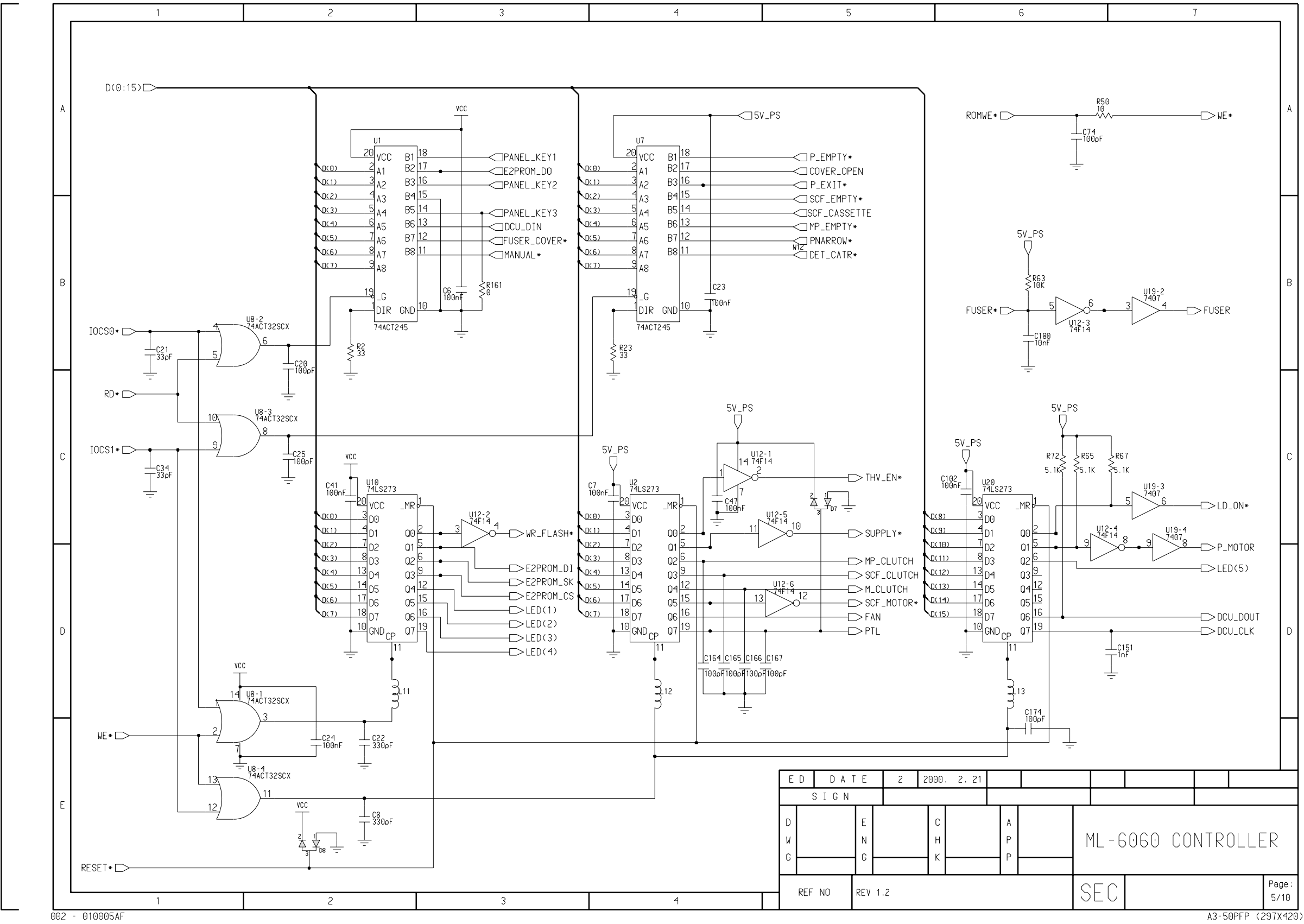
ED	DATE	2	2000. 2. 21						
SIGN									
D		E		C		A	ML-6060 CONTROLLER		
W		N		H		P			
G		G		K		P			
REF NO		REV 1.2					SEC		Page : 4/10

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A3-50PFP (297X420)

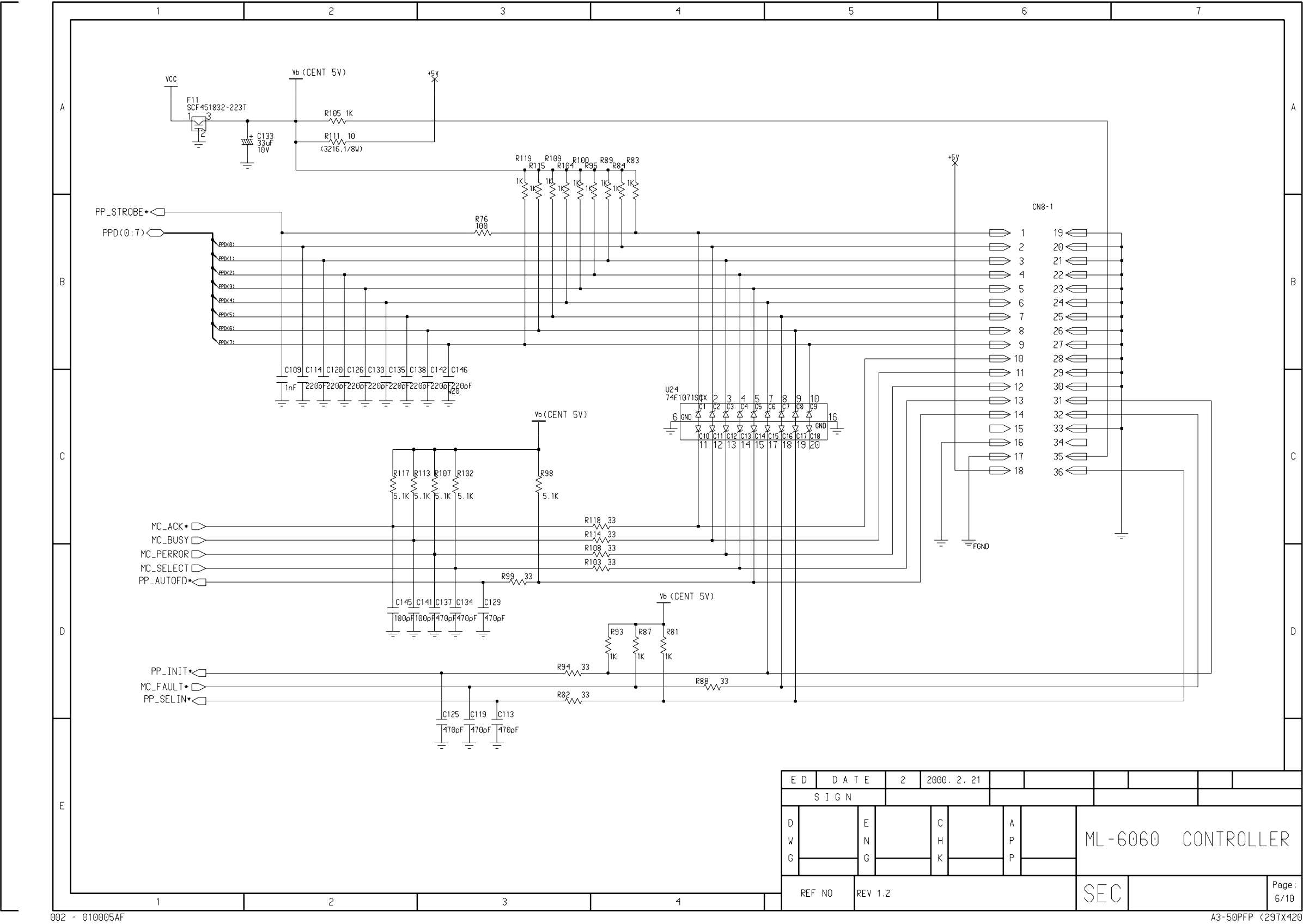
Main Circuit Diagram(5/10)

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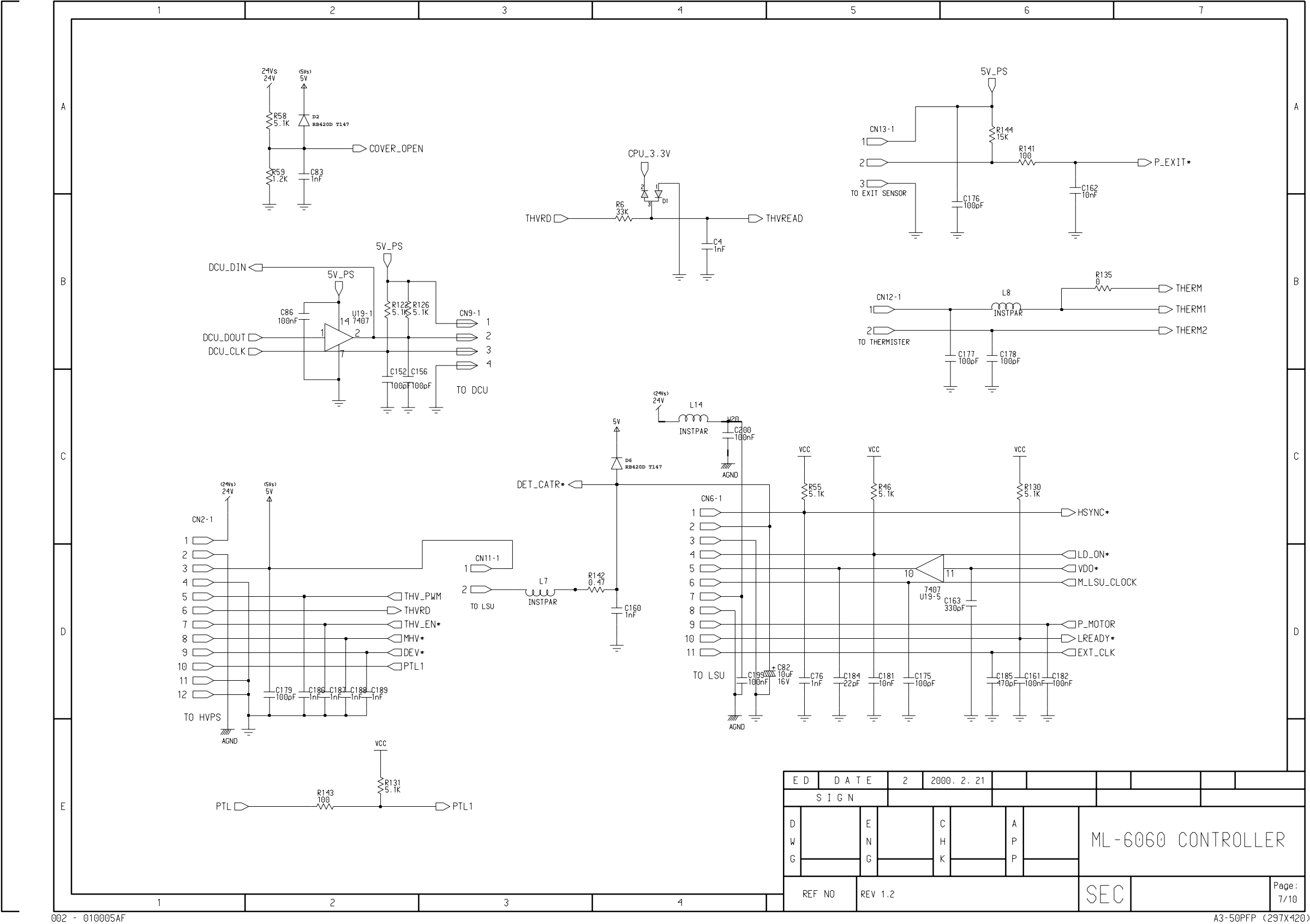
Main Circuit Diagram(6/10)

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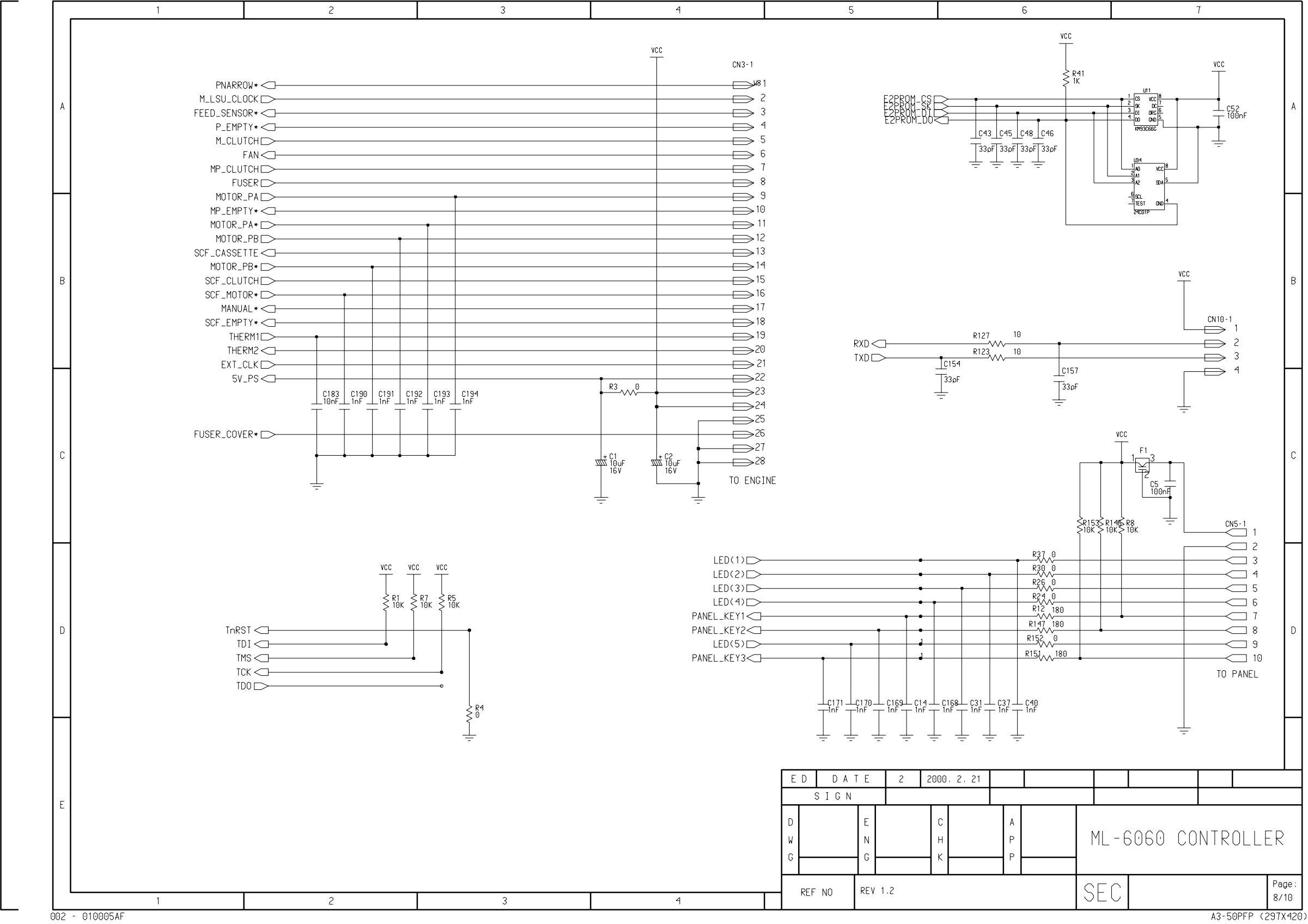
Main Circuit Diagram(7/10)

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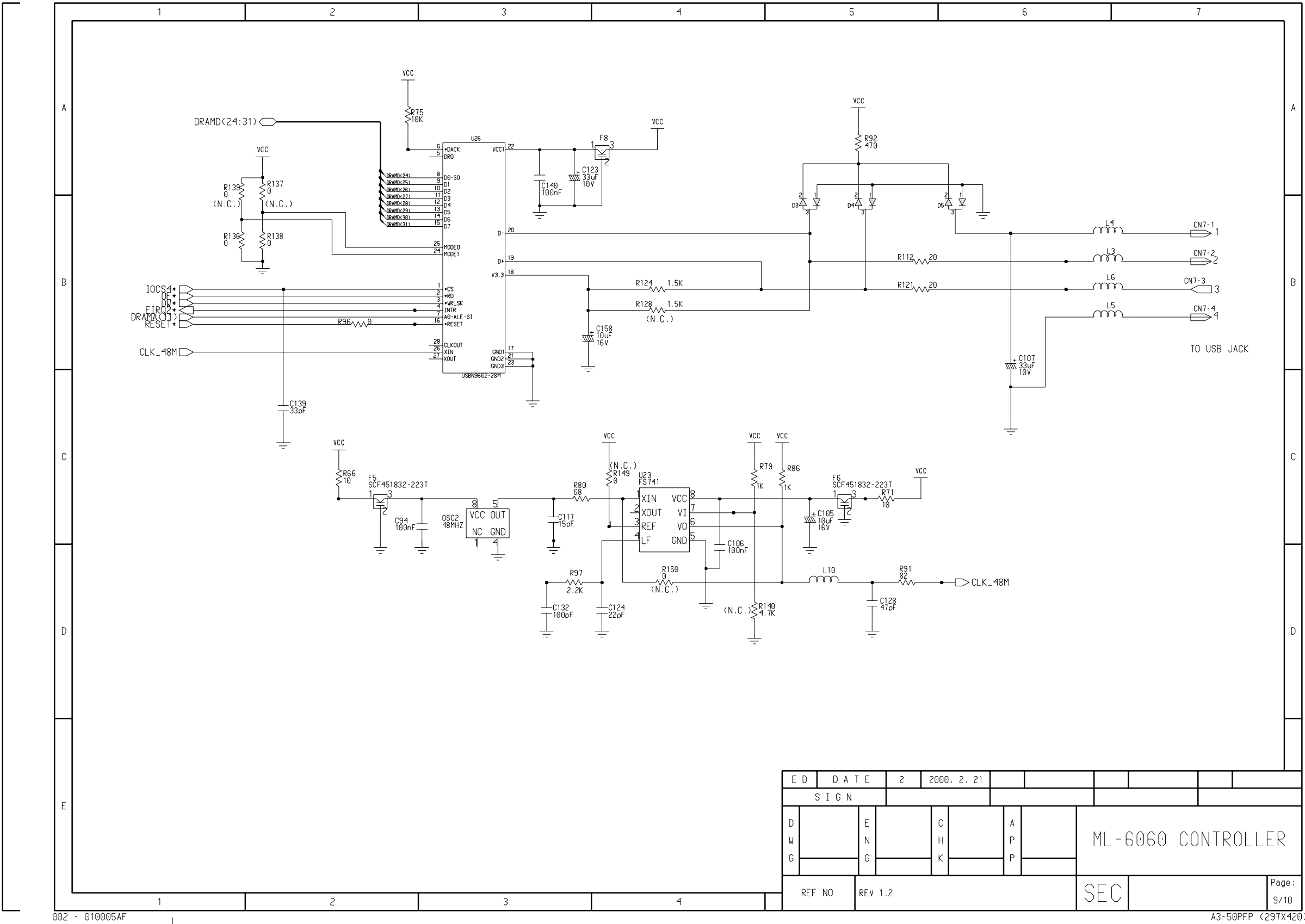
Main Circuit Diagram(8/10)

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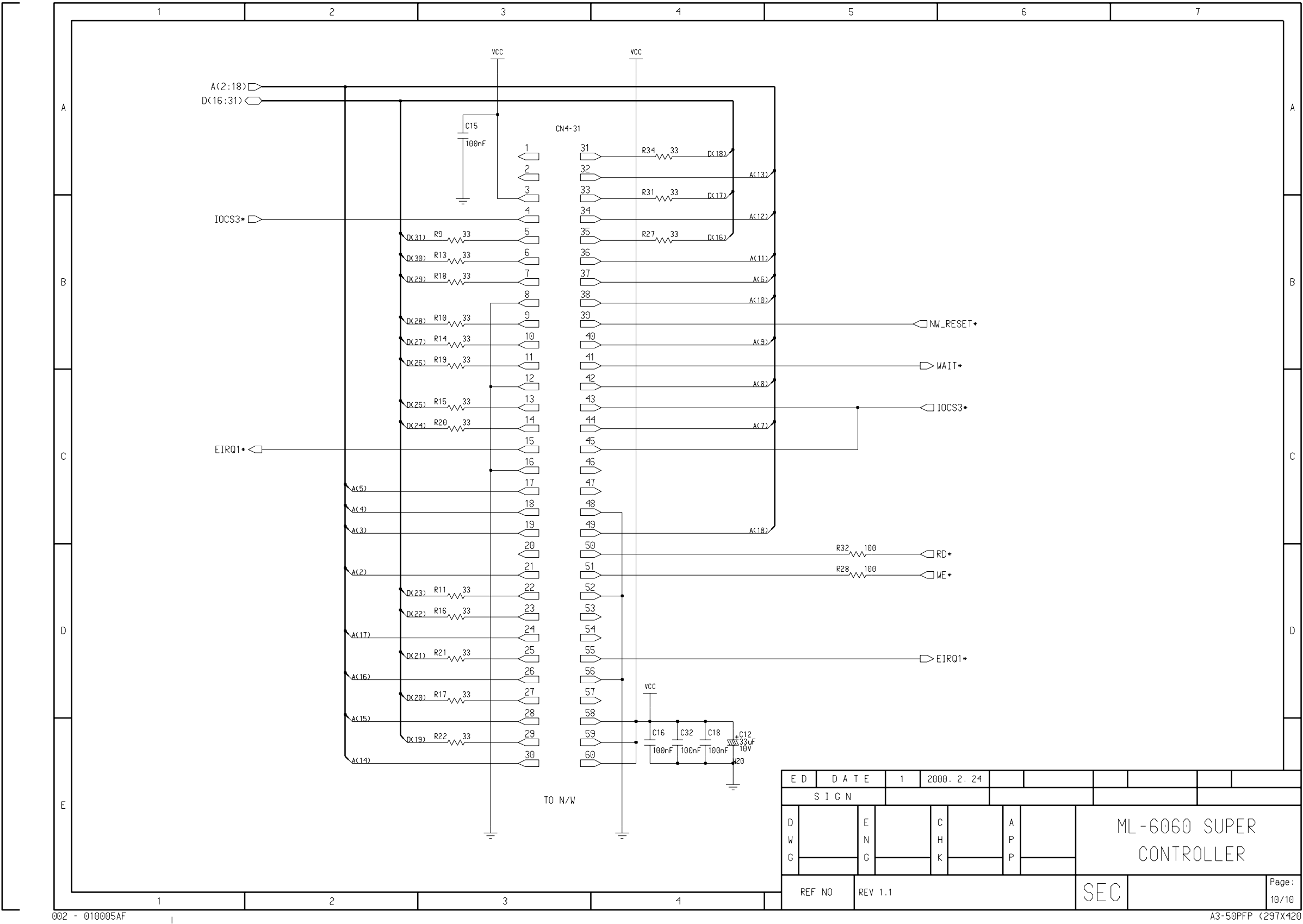
Main Circuit Diagram(9/10)

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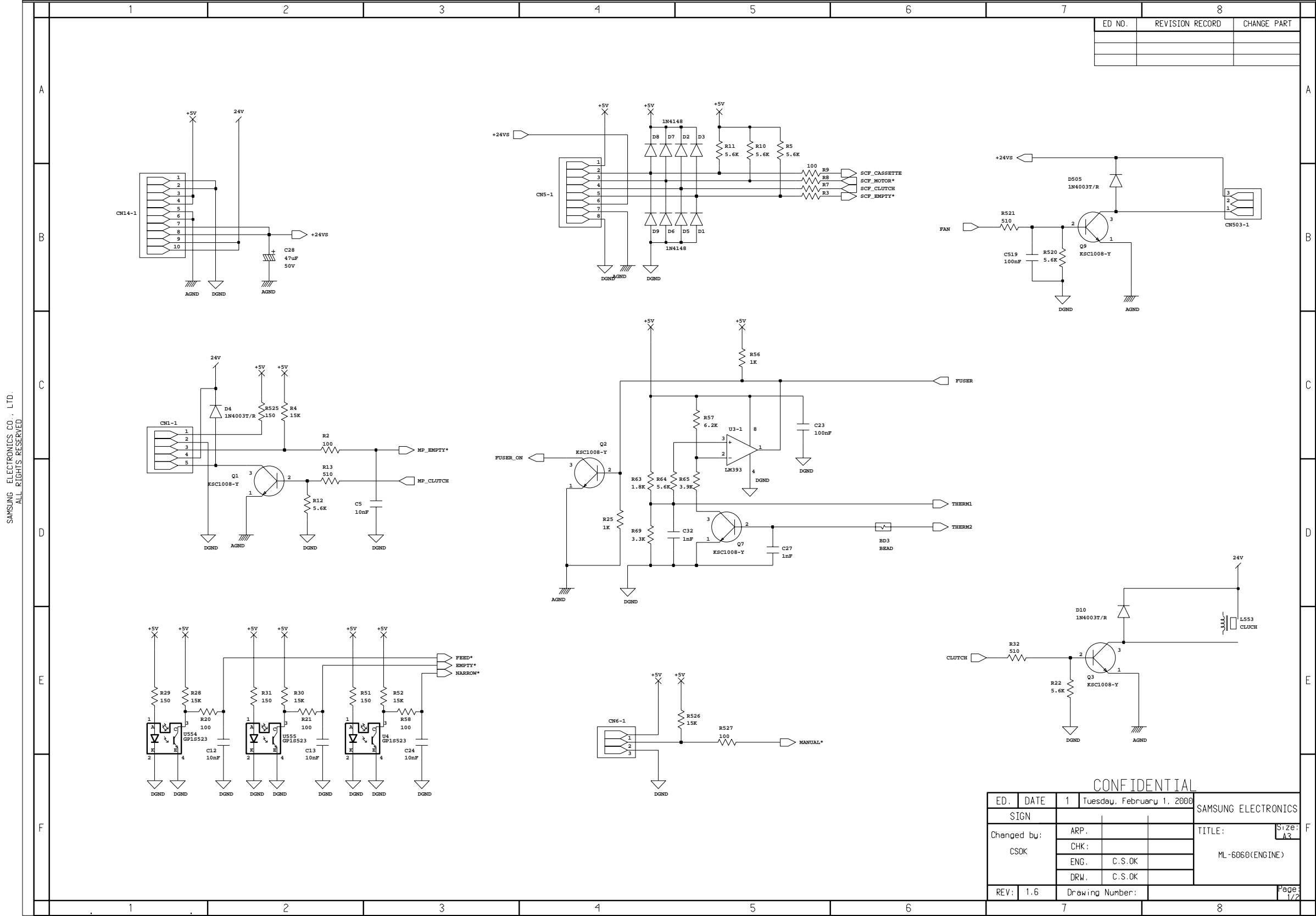


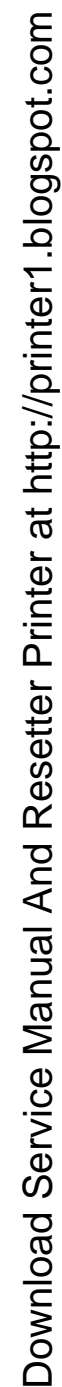
Main Circuit Diagram(10/10) : ONLY ML-6060N

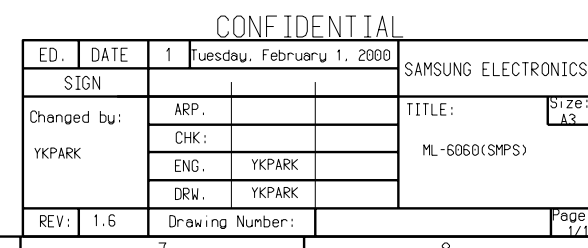
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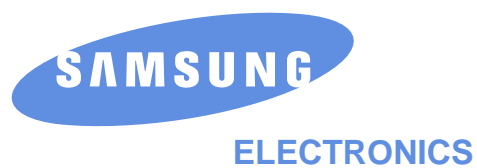


9-2 Engine Circuit Diagram(1/2)









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